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THE FUNDAMENTAL PRINCIPLES OF ORTHOPEDIC, RECONSTRUCTION AND INDUSTRIAL SURGERY

THE REAL LESSONS OF THE WORLD WAR *

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In this section we should remember that in 1916 Col. Joel E. Goldthwait and four other members, Hibbs, Henderson, Osgood and Allison, were appointed a committee on preparedness to arrange for our participation as orthopedic surgeons if the United States became engaged in the World War. Our attitude then was one of high idealism; we were prepared to offer time, effort and even life if necessary, in the service of our country and our countrymen.

It is now a matter of history that the opportunity came, and that, in the spirit suggested above, Colonel Goldthwait and his associates made exactly the offer and the effort that was expected of them.[1]

Now, however, if we attempt to discuss the results of that effort, in the spirit of today, we are very likely to develop a tone that differs greatly from that which was used in 1916. There are those who not only disparage the effort, but who deny the patriotism of those who engaged in the orthopedic part of our campaign against the belligerent Central Powers. There are also those who contend that the final victory of the Allies has brought us no good results of any kind. In fact, there is so much confusion in politics and international policies, and in the affairs of the world in general, that it is difficult to discuss even questions of service and scientific progress and separate them, for special study, from other national and world affairs that are clamoring for attention.

This puzzled and uncertain or even negative attitude is, perhaps, not entirely unreasonable. It is difficult for one to devote oneself wholeheartedly to the solution of problems of surgical procedure and methods of physical reconstruction for his patients, when the surgeon himself is trying to rehabilitate after a period of military service. Moreover, the situation is complicated when the soldier patient is more concerned about securing a cash bonus or compensation than he is about getting well.

All of these things have a bearing upon the topic which I have selected for my address. I feel that, with a little time for consideration, we can arrive at fairly definite conclusions as to some of the lessons learned from the war.

* Chairman's address, read before the Section on Orthopedic Surgery at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Report of Committee on Orthopedic Preparedness, Tr. Sec. Orthop. Surg. A. M. A., 1917, p. 248.

FIRST PRINCIPLES

Our Surgeon General has said recently that the surgery of the war consisted chiefly in a "harking back to first principles."[2] This comment may or may not do justice to our two years of effort in the military service. One might say that, if we really had successfully "harked back" to first principles, we might feel fairly well satisfied with the achievement. After all, compliance with first principles is one of the things that surgeons have not done too well. It does seem to me, however, that this comment calls for both elaboration and explanation if we, as surgeons, are to get anything for our patients and ourselves out of our war experience.

There were during the war certain occurrences in the surgical services that represented serious aberrations, if we consider them from the standpoint of first principles.

Our concern, as orthopedic surgeons, has been chiefly with the prevention and correction of deformity, and with the restoring to useful citizenship of those who suffered by reason of the military service.

Have we as surgeons learned anything new or profited in any way by our service in the hospitals in Great Britain, in France or in the United States?

I believe that it may be said that the character of such work is better at the present time than it was five years ago, and that it is better because of certain lessons learned in the army hospitals.

Orthopedic or reconstruction surgery in this country is still very poorly done. We have still many thousands of children and industrial workers who are crippled, deformed and physically handicapped because of inadequate medical and surgical attention. There are as yet insufficient hospitals. We lack special training schools for selected vocations for the crippled, and there is even now no real public or even professional conception of what may be done in the prevention and cure of deformity, the relief of disability, and the retraining of the physically handicapped.

To illustrate: If only the splinting of fractures and infantile paralysis were promptly and properly done in the United States, the total amount of crippling and serious disability would be reduced by about 10 per cent. Or if suitable measures were appreciated and encouraged by physicians to prevent and relieve foot strain, foot pronation and acquired foot deformities, another 15 to 20 per cent. of our partially or totally disabled workers could be made more comfortable and more efficient. With regard to the latter cases alone, Colonel Goldthwait's special training battalions in France furnished a lesson from which every city in

2. Garrison, F. H.: History of Medicine, Ed. 3, Philadelphia, W. B. Saunders Company, 1921.

this country could profit if the message were carried by our orthopedic surgeons and the other members of the medical profession.

LESSONS FROM VARIOUS PROCEDURES

The war taught us that much disability and deformity may be prevented by adequate first aid treatment. Our experience in this regard, though less extensive, was just as convincing as the prophylaxis that succeeded so well in typhoid fever and tetanus. It is only necessary to refer here, by way of illustration, to the saving of life and limb that was accomplished by the application of the Thomas splint in compound injuries of the femur, by splint teams on the battlefield. The results achieved by this one procedure should be sufficient reason for placing Thomas splints and splint teams at every point in America where such accidents are likely to occur. As it is, there are already hundreds of places where a Thomas splint had never been seen before, where there are now adequate provisions for the immediate splinting of such injuries.

This section should acknowledge, as one of the outstanding achievements of the war, the results of the labors of Goldthwait, Allison, Osgood, and Baer, in the simplification and standardization of splints and splint methods. In this respect, at least, we caught step and I think even went ahead of our allies. We are now certainly getting better results than formerly in the care of many industrial accident cases. I believe that these results are due more largely to the earlier and better application of splints than to any other cause.

In any discussion of progress in war surgery, one of the first topics to be suggested is that of the Carrel-Dakin treatment of infected wounds. The results of such wound treatment in a few instances were such as to give the whole subject almost an atmosphere of romance. The rapid and obvious reduction in infection, the diminishing number of septic organisms, the improvement of the patient's general condition, and finally even the secondary closure of certain wounds made a strong appeal, both to patient and surgeon. I believe I can say, however, that out of these very experiences we should get one of the important lessons of the war. The field of application of the Carrel-Dakin method has already been fairly well realized, and we shall admit without argument that the method has a certain, if limited, value.

My principal point, however, from the standpoint of an orthopedic surgeon, is that neither the Carrel-Dakin method nor any other kind of wound treatment should be permitted to interfere seriously with the fundamental principles in the treatment of bone and joint injuries. Those principles are, first, the immediate replacement, as nearly as possible, of injured parts in anatomic relationship, and second, the maintenance of immobilization ("enforced, uninterrupted, and prolonged"—Hugh Owen Thomas) of such injured parts in proper relationship until healing occurs.

In other words, wound treatment of whatever kind must not interfere with splinting in correct position. In the application of the Carrel-Dakin method, the disturbance of splints and the discarding of casts has been very common. It is my belief that splinting should come first in compound injuries, just as it should in infantile paralysis. In infantile paralysis, massage, electricity, manipulations, hydrotherapy and all other measures of physiotherapy are of secondary and minor importance as compared with splinting in correct position. My attitude with regard to the Carrel-Dakin or any other forms of wound treatment (except drainage) in compound injuries is exactly the same, that is, they are secondary to correct splinting.

This argument also brings up the old question as to splinting and stiff joints. To this my answer is that stiffness, whether of the joint itself or of the adjacent soft parts, is due not to immobilization but to pathologic changes. Such changes are always due to irritation, inflammation, tissue destruction and scar formation. All of these are kept at a minimum, not by movement, but by rest. The minor stiffness that is inevitable to the minor injury can be broken up after healing occurs. The more serious stiffness that results from more serious injury cannot be broken up either at the time by poor splinting or by force later on.

Another important war experience, and one which attracted much attention at the time, had to do with the so-called Willems method of the treatment of infected joints by keeping them in motion. Accurate and careful adherence to the exact technic promulgated by Willems surely gave, and will give, good results in some acute septic joints. (Careful splinting and sound healing will give the same results or better.) On the other hand, experience taught us the great danger of keeping infected joints moving under any except ideal conditions. I saw during the war, and have seen since, many cases of serious disability and severe deformity in which attempts were made to maintain motion in joint cases, which should have been protected and allowed to become stiff in better position.

Even from one of the most brilliant procedures that came out of the surgery of the war—débridement—there are negative as well as positive lessons to be learned. Certainly we saw that lives and limbs were saved by the early and complete removal of badly damaged and infected tissues. That such procedures should be done only by skilled surgeons, however, is attested by the frequency with which principal peripheral nerves were sacrificed and serious disabilities resulted, owing to bony and soft part defects.

OCCUPATION OF DISABLED

One of the greatest lessons of the war is one in regard to which we, as a profession, still have much to learn. This is the lesson of the occupation of the sick and disabled. Both in the army and out of it, we are still pursuing, with regard to our disabled, a policy which in many cases is bad for them and bad for us.

This is the policy of compensation without directed or supervised employment. It is true that we have a fairly elaborate machine set up for the vocational guidance and for the employment of our crippled discharged soldiers. For our industrial cripples there is almost no provision whatever. The fault now is not so much with the governmental agencies as it is with the general public and with the profession. The employment of the idle presents a problem for the solution of which the intelligent cooperation of the entire community is necessary. As long as idleness is permitted, and especially as long as it is encouraged, we shall have the problem of the unemployed, either lame or well. Certainly, however, in institutions in which supervision is at hand, every inmate should be engaged, if possible, in some sort of useful occupation. These occupations can be made educational and instructive as well as

remunerative and curative. Then the individual will be on the way to real rehabilitation, socially as well as physically.

We have passed, have we not, that period in human history in which power and possession were yielded to that one who was physically the strongest? We are supposed to have now a government which guarantees to us all equal rights for the enjoyment of life, liberty and the pursuit of happiness. Are we not perhaps ready for the next step forward into an era in which, by common consent, we may give special opportunities, special privileges and special facilities for self help (instead of merely charity) to those who cannot—mentally or physically—keep up under the strain of competition with those who are fit?

CONSULTATION AND SUPERVISION

In spite of the arguments of those who fear and object to paternalism, I wish to say a word from our experience with the supervising consultant in the military hospitals. It is an idea which remained firmly rooted in our surgeons, even after they became medical officers in the United States Army, that the hospital service and the patient assigned to any one became more or less his personal property. One needs only to see the attitude of any surgeon now toward his hospital service and his hospital patients to find out how quickly he resents supervision, direction or even suggestions as to the care of his patients. If any attempt is made to direct the care of any patient apart from the surgeon's invitation, he is at once affronted. This feeling must, of course, rest on the assumption that the surgeon knows so much about his work that no one can tell him anything.

Would it not be better for our patients to meet this question fairly and allow methods of treatment to be checked up by those who are competent to give an expert opinion?

In the military service, we certainly found hospitals, surgical services and wards in which specially trained consultants were able to contribute much to the work that was being done. I believe that it may be said that this is particularly true of consultants in orthopedic surgery. At any rate, in orthopedic surgery, it was particularly easy to demonstrate the results of decisions as to treatment and the supervision of the care of patients by consultants. I can recall instances in which a single visit by the consultant with a tape measure to a femur fracture ward resulted in correction of deformity, lengthening of shortened limbs, and the improvement of the condition of twenty or thirty patients in a single day.

That this method might be applied in the same way to present day conditions and present day hospitals, I believe no one can deny. It is my belief that a consultant in orthopedic surgery with correct ideas regarding the prevention of deformity could contribute to the welfare of many patients, to the improvement of their condition, and to the prevention of some deformity, in most of the hospitals in this country.

I am not unaware of the ojections to further inspection, consultation and supervision by city, county or state officials of any kind. I have some reason to believe that this sort of thing is being overdone. And yet the chief objections to consultation and supervision come from those who, in a sense, create the necessity for it. We have many inspectors of all kinds who are incompetent and superfluous. On the other hand, we have inspectors who are responsible for the fact that we are served with healthful meat and clean milk; that we enjoy a measure of police and fire protection; that we have paved streets and good roads, and that we enjoy many other privileges and immunities.

In the same way I believe that it may be said that, in spite of any objections that may be raised, systems of hospital or community consultation in fractures and other serious injuries would raise the level of such treatment and bring about an era of better results. It cannot be denied that many fractures are being treated today by those without proper training, skill or experience in such work.

Other disabilities and deformity-producing diseases and injuries are being handled in the same way. Standards of treatment and results definitely set down, and more or less rigidly enforced, seem to me to be the only answer. And for this purpose a consultation scheme with the development of something like an "orthopedic conscience" seems to be necessary.

POSSIBILITIES OF REESTABLISHMENT

The experience of the war has brought to our attention very forcibly the fact that our results in this class of cases are not as good as they should be. In the draft, in the army hospitals, and since the armistice we found, and do find, disability and crippling that should have been prevented. We constantly find instances of avoidable deformity. And there are daily opportunities to replace in society and in industry cripples who are idle now because of the neglect of treatment and training.

We have had splendid illustrations in our own country as well as in Great Britain, France and Italy of the meaning and methods of rehabilitation in the broadest sense. Canada has shown us in a very striking way the possibilities of "reestablishment." In all the countries of our allies, as well as our own, surgical reconstruction is being admirably done to a certain extent.

Moreover, we now know that congenital and acquired deformities are equally amenable to relief if we follow the fundamental principles of orthopedic surgery. And, briefly stated, these fundamental principles are, first, to restore to and secure healing of parts (at *any time* after injury) in as nearly correct anatomic relationship as possible. And second, we have surely learned that there are practically no limits to the possibilities of reestablishment of the individual by the educational and training development of original compensatory or vicarious functions.

Fighting the Drug Menace.—The League of Nations recently held a conference in Geneva on opium; and Congress has passed a bill limiting the importation of drugs. The medical societies are also assisting in the crusade by endeavoring to eliminate those who profess to be curing addicts by administering smaller, but continuous doses. The drug problem has assumed such large proportions that a physician has been placed in charge of the special narcotic control division of the New York police department. This agency has cooperated with other forces throughout the United States and foreign countries until a clearing house has been established to supply information regarding drug addicts and venders. The narcotic division has already collected the finger prints of 20,000 drug users in this country, Canada and Europe. It has been stated that there are from 250,000 to 400,000 drug addicts in this country alone, and that the habit results in an annual loss of $750,000,000. Narcotics valued at $3,500,000 were confiscated and destroyed in New York alone during 1921, and 3,086 venders or users arrested.

THE OTOLARYNGOLOGIST IN THE SCIENCE AND ART OF MEDICINE AND SURGERY*

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It can be truthfully said that this is the greatest year in the history of medicine and surgery, especially in the branch of otolaryngology and, as has been said by others, "it is conceded everywhere that the eye, ear, nose and throat specialists have attained the rank of a major branch of medicine and surgery. When one compares the meager, almost barren specialty of twenty-five years ago in this subject, with the wonderful advances of the present day, one is amazed at the development a quarter of a century has brought forth. Its scope and dimension have enormously enlarged and become a powerful and far reaching organization."

For years we have believed that the Mekka of medical learning and training was to be found principally in Europe or in the eastern part of our country; but the war has proved that in every department of life this, our own country, now leads the world. No longer does a trip to Europe confer especial prestige or advantage, because today medical Europe is destined to sit at the feet of medical America. The tremendous development of the past twenty-five years has been due to American initiative and skill, and in this period this specialty has advanced from a minor to a major branch of medicine and surgery, entitling American men to be the clinical teachers of the world. The Vienna of ophthalmology and otolaryngology belongs not in Europe but in America. Because the science and art of medicine and surgery and its special departments are not fixed but are in the process of development, the rapid progress being made by study and research becomes more fascinating and stimulating than ever before. It is also equally true that no one of these specialties can exist without the other, or independently of them, but every specialist must do or have done some of the work of the internist. "The aggressive research work and advanced improvements in operative technic have so changed the principles of otolaryngology that the methods of a quarter of a century ago have no place in our ranks today"; then we lived in the adolescent stage of the science and art of medicine, and our diagnosis and treatment were largely based on symptoms and theory; but in the past decade we have passed from adolescence into the manhood of humanity and with it into the manhood of the science and art of medicine, and today we are governed not by theory but by facts. The East now turns to the West, and where the North, South, West and Middle West formerly turned to the East for instruction and training, they now look not to one alone, but to one another. A recent trip to the West and Middle West convinced me of the great work being done by those of whom we have heard only too little, and it can be truly said that the South, West and Middle West are coming into their own in the field of otolaryngology. From a scientific standpoint it seems that we have nearly reached the summit of the diagnostic and surgical technic in our special field.

Those who consult us either have symptoms indicating disturbed conditions of the ear, nose and throat due to a local determinable pathologic condition, or else these symptoms are but local manifestations of systemic conditions; and, since either or both may exist, it is expected and demanded of the otolaryngologist that he be able to decide the question.

It is now recognized that the average case of diseased nares, pharynx or larynx must be relieved by changes brought about from within the body and not from those without. The efficacy of the nebulizer, vaporizer, atomizer and topical applications of any kind is found in relatively few instances, and they are not indicated except as palliative measures.

When the disturbed or diseased condition is not a local manifestation of a systemic condition, but is due to a local condition, it is a surgical condition and must be dealt with as such, with skill, percision and accuracy equal to that required in any part of the body, if the surrounding area is to be left with function unimpaired. To differentiate between the systemic and surgical etiology and to prescribe the proper treatment, or resort to the safest and sanest surgical procedure, requires a diagnostic skill and surgical technic based on a thorough knowledge of more than the fundamental principles of medicine. Besides a knowledge of anatomy, physiology, chemistry, biology and pathology, we must know materia medica and therapeutics in order to be able to recognize and successfully combat the disturbed metabolism. The responsibility of the otolaryngologist is not only different from, but greater than that of any other special branch of medicine and surgery, in that we must preserve or restore both ventilation and drainage in order that these organs may function normally.

It is no longer sufficient that the otolaryngologist be a skilful technician, able to see into or through the many ramifications in this special field; he must do so with little or no irritation or traumatism; he must be able to recognize the abnormal or pathologic and, in the majority of instances, to verify his conclusions by laboratory findings. To do the best work with the best results, the otolaryngologist must not only be thoroughly trained, but his training must be founded on a knowledge of the branches mentioned, to which must be added at least some knowledge and experience of the internist; and, since this is too large a field for the average man to master, he must have the help and cooperation of the laboratory expert, the internist and the roentgenologist. With all these he must be a thoughtful observer, thoroughly trained, a student of current medical literature pertaining to otolaryngology, and must attend scientific meetings such as these, in order to be able to interpret correctly what his eyes see and his fingers feel.

Knowledge of the therapy of nutrition, food and pollen sensitization, and mastery of the mysterious field of endocrinology, I believe, will soon aid us in answering the challenge of immunization and anaphylaxis. This brings us again to the question of medical education, which has occupied so much of the thought of the teachers of medicine in the last few years. I am in accord with the views of Dr. R. B. Canfield of Ann Arbor, Mich., that:

> A consideration of the entire undergraduate medical curriculum is indicated and, in order to take it up intelligently, the history of undergraduate medical teaching in the country for the past forty years must be reviewed. At first it was entirely clinical; then the importance of laboratory teaching was recognized and stressed by energetic and progressive workers all over the country. In order to devote more time

* Chairman's address, read before the Section on Laryngology, Otology and Rhinology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

to preclinical work, the medical course was changed from two to three or four years; finally the premedical course was added and the combined course evolved, working toward two degrees. At present the combined course of six years, leading to the degrees of bachelor of arts and science or doctor of medicine, covers six or seven years, and four or five years of this are devoted chiefly to preclinical work with the idea of securing a broader basis and education for studying clinical medicine. While this seems too large a proportion of the time devoted to preclinical work, yet before any clinical course is cut down it would be wise to study critically exactly what is being taught throughout the undergraduate course, not only the names and courses with the hours devoted to them, but what is really in each course, and by comparison then with what is ideal, be better able to approximate the ideal. Not enough hours are given to teach the student to see and recognize normal conditions of the ear drum, nasopharynx or larynx, let alone diagnose diseased conditions there, nor is there sufficient time to teach what every general practitioner should know. The aim should be to graduate only doctors to care for the sick, without sacrificing anything essential in order to teach them preclinical work that is often forgotten before graduation, and could better be given to men in a postgraduate course, who wish to specialize in this line.

The scope of otolaryngology has widened more in the last ten years than in any other branch of clinical medicine, and more time should be devoted to it. The character of some of the preclinical work should be changed, courses should be cut down, and clinical work should be pushed farther back, so as to give more time for clinical medicine and surgery.

There seems to be an inclination to centralize authority in three departments, surgery, medicine and pathology, subordinating the so-called medical and surgical specialties of the three. It would be a mistake to make heads of departments of clinical specialties, clinical professors, subordinate to full professors of surgery; and, if not overcome, this tendency will lower the standard of teaching in the medical and surgical specialties and interfere with the progress in these departments. Therefore a critical survey of the whole curriculum would be a good thing before any drastic change is made. The chief function of the undergraduate school is to graduate young doctors, not specialists or expert technicians.

The recent meeting of the Congress of American Physicians and Surgeons marks one of the most remarkable epochs in the history of medicine, in which otolaryngology occupied a conspicuous and important part. Great progress was shown in the advancement made in the study of labyrinth function, standardization test of hearing, and hitherto mooted questions in laryngology and rhinology were more satisfactorily answered. Because of a nearer approach to scientific accuracy, the transactions of the three national societies which are a part of this congress (laryngologic, otologic and ophthalmologic) will contain a fund of information that none of us can afford to be without. Two papers which were presented deserve especial mention, because of the startling facts brought out by two members of this section. One of these was on "Some Unpleasand Local End-Results in Well Performed Tonsillectomies," by Dr. C. W. Richardson of Washington, D. C., and the other on "Fatalities of So-Called Minor Operations on the Nose and Throat Not Dependent on Anesthesia," by Dr. H. W. Loeb of St. Louis.

What I have already briefly referred to should make us carefully consider the admonition of the president of the Congress of American Physicians and Surgeons, who says:

The tendency to overspecialization in the practice of medicine has tempted many inadequately trained members of the profession to take up special lines of work. There are too many specialists of this kind in practice today, and to correct this condition the members of this congress should promote and develop opportunities in various parts of the country for adequate postgraduate training in the several specialties of medicine and surgery.

Dr. Frank B. Wynn, who has written "The Ten Commandments of Medical Ethics," says:

Let it be granted that specialization, which has done so much for modern world progress, is likewise the chief glory of medicine; but we should not forget that as specialization in the commercial and industrial realm has led to narrow and selfish materialism, so is medical specialism in our day tending to forget man as an entity—a thinking, reacting aspiring being.

Is it not meet at this time, therefore, that we seek a rejuvenation of medical ethics—not so much as a cold, harsh rule of conduct, but as a revival of the finest things of professional life for which medicine in the past has always stood? In these days of arrant boastfulness by chiropractors, of preposterous claims by Christian scientists; with medical sects multiplying and breeding upon avarice, ignorance and erraticism, should not the medical soul be aroused? Reviving the faith of our fathers, let us set the light of knowledge of the science and art of medicine and of medical ethics "upon a hill, that all the world may see and know the truth."

EFFECTS OF INTRATRACHEAL MEDICATION ON GAS BURNS OF THE RESPIRATORY TRACT*

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When we entered the war, the enemy was using mixed gases, thrown over with shells from trench mortars and by heavy artillery. The attacks usually began with gases which produced excessive sneezing and lacrimation; this being followed by the more poisonous gases, mustard and phosgen. Mustard gas, so called because its odor resembles that of mustard oil, classified as a vesicant, causes inflammation, blistering, discoloration of skin, acute conjunctivitis and intense inflammation of the respiratory passages. Its action is caustic, the extent of damage or destruction of tissue depending on the degree of concentration and the time of exposure. Its action may be delayed over a few hours to two or three days.

Phosgen is classified as a lung irritant of suffocant type, which, in the alveoli and lung tissues, causes exudation of large quantities of frothy mucus; acute pulmonary edema, and death, by flooding the air spaces.

One of the most important and arduous duties of the throat and ear service throughout the war, after the introduction of poison gases, was the treatment of gas burns of the respiratory tract.

The Allied Medical Service was completely overwhelmed for a time by the great number of casualties, and was without knowledge or means of proper treatment. During my service in Base Hospital 32, located at Contrexéville, France, advance sector, from March 23, 1918, to the end of the war, 6,000 gas cases were received at our hospital for treatment. Of this number

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2,800 were regarded as serious, requiring special treatment of the upper and lower respiratory tract. Frequent examinations were made of these patients, both by direct and indirect laryngoscopy, and, when the condition of the patient permitted, bronchoscopic examinations were made. A number of patients died in convoy from the front lines to the hospital. Necropsies were made in these cases, and water color sketches representing conditions found in the respiratory tract and lungs were made by an assistant.

Our first observations were made on a convoy of patients received, March 23, 1918. These patients were principally from Companies K and M, One Hundred and Sixty-Fifth Infantry, Forty-Second Division, and were gassed in the Lorraine Woods, American sector, March 21 and 22, 1918. The following history was obtained:

The gas attack was made with shells thrown from mortars and heavy artillery and was concentrated around the dugouts of Companies K and M, One Hundred and Sixty-Fifth Infantry. When the attack began, all had on their gas masks and kept them on for two or three hours, when they were informed by their officers that it would be safe to remove them. Many claimed that they felt a burning sensation in the lungs while they had on their masks, but, from reports made by others, it was evident that they removed their masks too soon and that the masks afforded perfect protection while they kept them on. The first severe effects of the gas were felt in the eyes, at varying intervals of from one to three hours. The respiratory effect developed from a few hours to several days after the attack. A number of these patients had no symptoms of gas poisoning until they had slept under blankets which had been exposed to the gas.

We had rarely witnessed such suffering and distress as these patients manifested, with skin burned and discolored, eyes swollen shut, spasms of choking, vomiting and struggling for breath, with the lungs literally drowned by their own secretions, they writhed in pain until they became unconscious from the want of oxygen.

Nausea, retching and vomiting, with pain and oppression over the chest, were among the earliest and most persistent symptoms, followed later by coughing and spasms of the glottis, with excessive discharge of frothy mucus often mixed with blood. Hemorrhages from the nose and lungs were among the rare symptoms. A deeply cyanosed and lead-colored face, labored respiration, rapid pulse, restlessness, constant and spasmodic efforts to expel the profuse frothy expectoration was the usual clinical picture during the first few days. The pain and distress in the lungs and epigastric region was often very intense.

PATHOLOGY

The pathology of gas burns is similar to that of an escharotic chemical applied to the tissues. If gas sufficient to produce serious effects is inhaled, there results an extreme engorgement of all the vessels and capillaries of the lungs, followed by the outpouring of a serous exudate from the injured bronchial and alveolar linings. In this stage, the patient might be drowned by the edematous exudate which filled the lungs, to the exclusion of the air. As in other inflammations of a severe degree, the outpouring of the fluid exudate from the blood is followed by deposit of fibrin on the injured surfaces. Thus, the bronchial passages, already wholly or partially denuded of epithelium, became lined or even occluded by a fibrinous membrane similar to that seen in diphtheria. This greatly hindered respiration and adhered to the mucosa with such tenacity that coughing was ineffectual to dislodge it. Necrosis of the bronchial walls and lung tissue resulted in a varying degree from exposure to the gas. These areas were, of course, promptly invaded by whatever bacteria were present in the respiratory tract, resulting in ragged, foul ulceration of the larynx, trachea and bronchi, and in multiple abscesses of the lung.

After the first few days, the burned areas became infected and began to suppurate. As the necrotic process advanced, large quantities of exudate consisting of broken-down tissue, tube casts, greenish-gray masses of membrane and sometimes necrotic lung tissue, were thrown off from the air passages. During this stage, the breath was very foul from the gangrenous discharges, and the patient, utterly exhausted from absorption of poison and the constant spasmodic and ineffectual effort to expel the accumulated slough, very often would lapse into a semiconscious state.

EXAMINATION

In the milder forms of mustard-phosgen poisoning, we found the nasal, laryngeal and bronchial mucosa red, dry or edematous, in the early stages. The general appearance was not unlike an ordinary laryngitis or bronchitis. After a short time, the membranes began to pour out large quantities of mucus. In many of these cases of mild gassing, the patients recovered in a few days, and, in those patients who had been exposed to a high degree of gas concentration, the mucosa showed an intense hyperemia and dryness at first, followed later by flooding of the air passages with the frothy mucus, often mixed with blood. After two or three days, the burned areas were covered with a fibrinous membrane. These patches were found in the vestibule of the nose, on the turbinates and, in some instances, extending into the accessory sinuses. The mouth and pharynx seemed to show resistance to the caustic action of the gases, owing, probably, to the character of the epithelial lining; while the larynx, especially the arytenoid region, seemed to be particularly vulnerable. Burns were often found to be deep, with infiltration and edema about the vocal bands, causing aphonia, which occasionally persisted for weeks and months. The tracheal lining was usually burned in irregular patches. In many cases, the entire lining of the trachea extending into the small bronchi was involved. Edema of the lungs was always present to a greater or less extent when there had been exposure to the mixture of mustard and phosgen in any high degree of concentration. Bronchopneumonia with multiple abscesses was not infrequently present.

TREATMENT

At this time (March 23, 1918), when we received our first convoy of patients at Base Hospital 32, the Allies had not developed any treatment which was satisfactory for the effects of poison gases in the respiratory tract and lungs. Rest, bloodletting, oxygen inhalation and warmth were found to be of value in general treatment. There was a large list of contraindications, such as, no form of opiate for pain, cough and spasm; digitalis for heart disturbance was contraindicated. Epinephrin had not proved of value and was thought to be dangerous. Oxygen seemed to be the chief remedial agent recommended by the Gas Service, but as there was not an oxygen tank in our hospital center during

the early months of our service, we found it necessary to resort to other forms of treatment. Alkaline washes and sprays apparently increased the suppuration and aggravated the condition. We felt at liberty to institute any form of treatment that promised relief; and as I had had several years' experience in the treatment of laryngeal and bronchial affections with intratracheal medication, it seemed to be applicable in the conditions arising from gas intoxication. The first object of the treatment was to relieve pain and the exhausting spasms and ineffectual cough without the use of opiates; and, next, to obtain better drainage of the lungs and respiratory tract. For these purposes, it was found intratracheal medication was the most effective. Medication in oil solution was introduced with the tracheal syringe during inspiration. Skilled assistants soon learned the trick of introducing the syringe and administering the medicated oils in the trachea and bronchi. In some patients who were peculiarly sensitive to any kind of throat medication, it was at first necessary to spray the pharynx with a 2 to 4 per cent. solution of cocain, before introducing the syringe.

The principal medicines used were solutions or emulsions, in liquid petrolatum or olive oil, of either bismuth, iodoform, antipyrin, guaiacol or camphor menthol. The following formula was found to be the most generally effective in the majority of cases: Guaiacol, camphor menthol, 5 per cent. of each in liquid petrolatum or olive oil. From 1 to 3 drams of this mixture was introduced into the trachea two or three times a day in the severe cases.

MODE OF ACTION

When the oil solution reached the deeper bronchi a few seconds after introduction, the first effect produced was a cough, which expelled the contents of the bronchial tubes, often consisting of tube casts and diphtheritic membrane, grayish green, with pus, and other products of suppuration which had accumulated in the trachea, and which previous efforts of coughing had not been sufficient to expel. The natural drainage of the lungs was facilitated by the action of the camphor menthol on the inflamed, swollen mucosa, while the guaiacol acted as an antiseptic and anesthetic. The necrotic membranous exudate became more easily detached under the action of the liquid petrolatum, and easier breathing and better oxygenation were at once noticeable, as well as a diminution of the coughs and spasms. Relief of pain, with a sense of comfort throughout the lungs, usually followed with rest and better oxygenation; the general toxic condition of the patient improved.

Without exception, these patients expressed themselves as receiving great relief, and, when suffering, requested the treatment. Those who received the treatment usually made a quick recovery, and most of them were able to return to the lines in a surprisingly short time, considering their condition when they entered the hospital.

Of the 6,000 gas patients who passed through our hospital, only two died. These deaths occurred within the first twenty-four hours after admittance.

The results were so encouraging at Base Hospital 32 that the treatment was recommended in the official bulletin of the Allied Gas Service, in April, 1918.

CONCLUSIONS

1. Intratracheal medication is clearly indicated in all forms of inflammation of the lower respiratory tract resulting from the caustic action of poison gases. It should be used as early as possible after gassing, for the purpose of relieving the first symptoms of pain and asphyxia and reducing the extent of secondary infection, by facilitating drainage of the trachea and bronchi and rendering the passages as sterile as possible, through the antiseptic properties of the oil solutions.

2. This method of treatment shortens the process of suppuration in the secondary stage by aiding the lung reflexes, in expelling the necrotic membranes and products of inflammation, and in healing the ulcerated surfaces, thus relieving the strain on the nerve centers and checking the cough and spasmodic efforts to expel the débris; and thus improving oxidation, diminishing toxic absorption and affording rest to the whole organism.

3. Through shortening the healing process, the permanent damage to the pulmonary mechanism is lessened, there is less surface denuded of epithelium, less scar formation, less peribronchial thickening and, consequently, less tendency to chronic bronchitis and predisposition to tuberculous infection.

4. We are convinced from our observations and experience in using this treatment, before, during and since the war, that all forms of laryngitis, bronchitis, bronchiectasis and asthma, with all the different kinds of distressing coughs and spasms associated with these affections, are more quickly and effectually relieved by this form of treatment, and its use is urged in this class of disorders.

Hume-Mansur Building.

ABSTRACT OF DISCUSSION

DR. NORVAL H. PIERCE, Chicago: I was chief of the surgical service at Vichy during the war and our hospital was supposed to be a head hospital, so we should have seen a great many of these gas cases. However, the exigencies of war compel me to say that as far as my overseas service is concerned I can tell you more about compound comminuted fractures than about gas burns of the upper respiratory tract. In fact, we saw very few severe burns of the respiratory tract. We saw many more burns of the scrotum and of the lower extremities. I believe Dr. Page is right in recommending petroleum oil as an aid in the treatment of these cases of burns of the respiratory tract. I do not think it makes much difference what you put in that oil. It is largely the petroleum oil itself that does the work. Liquid petroleum has a remarkable influence in dissolving these fibrinous exudates. I believe, however, that an ingredient that would add to the efficiency of the liquid petroleum is oil of peppermint. It has been pretty well proved that mucous discharge is saponified, is largely made up of bubbles of air, and that oil of peppermint will overcome the surface pressure of these minute globules of air. Large collections of mucopus in the nose dissolve into almost nothing when liquid petroleum containing this oil is introduced. I do not believe that the other ethereal oils have the same effect.

DR. BURT R. SHURLY, Detroit: I was a neighbor of Dr. Page in France, just half a mile away, and we received an equal number of these gas cases. It seems to me that this method of treatment should have a definite, standardized basis for its usefulness. Having used it for some years as an ordinary routine procedure, I believe absolutely in its value in certain cases. I used 2.5 per cent. guaiacol and 2 per cent. camphor-menthol in olive oil by intratracheal injection in a number of cases, with decided palliative and beneficial effect. I think this method should have a definite, standardized use, to be used in the same way as we would use sterile castor oil in the eye in case of burns. At least it would be a palliative measure and give relief.

DR. WENDELL C. PHILLIPS, New York: This discussion should not close without emphasis being laid on the importance of this type of treatment in civilian practice. I recall the first paper read on this subject before our American societies by Dr. Thompson of Cincinnati, in which he emphasized the benefits that might be received in laryngeal and tracheal inflammation from intratracheal injections of remedial agents, with a base of sterile sweet oil. I use 1 per cent. menthol and 1 per cent. guaiacol, emphasizing an intratracheal syringe. Train patients to take this remedy, and it is marvelous what relief they obtain in those peculiar and distressing inflammatory processes involving the larynx, trachea and upper bronchial tubes. I do not know how the inflammations of the grip type have affected patients in other parts of the country, but during the past winter in New York we have been confronted with patients suffering from a most distressing and persistent tracheal inflammatory process in which cough was the chief symptom. This cough was so distressing that the patients became more or less exhausted, with a daily slight rise of temperature. It was almost impossible to get relief from any form of treatment except intratracheal injections. In my own practice, it is the standard, daily method of treating this type of case. We had some trouble getting satisfactory syringes. I have seen several varieties, but the one I get from Tieman & Company, New York, is the best. It has a very short barrel and a sharp curve.

DR. LAFAYETTE PAGE, Indianapolis: Dr. Pierce has emphasized the value of the oils in intratracheal medication, as well as their use in the upper respiratory tract for dissolving and loosening inflammatory products. In my experience, camphor-menthol, as an addition to the oils, has proved of undoubted value in the treatment of nose and throat affections, and with the addition of guaiacol, bronchial affections yield much more readily. I am glad that Dr. Phillips has given his experience with intratracheal treatment in the laryngeal and bronchial affections associated with the recent epidemic of influenza. It is encouraging to know that such an experienced observer also shares my enthusiasm in the use of this form of treatment. In the early stages of influenza, before the disease has invaded the lower respiratory tract, it has decided value as a prophylactic measure; later on, the distressing cough and irritation of larynx and trachea are more quickly and effectively relieved by this treatment than by any other known to me.

A STUDY OF HYPOTENSION*

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Hypotension is one of the indefinite problems of medicine. Few articles have been written on the subject, compared to the large number on hypertension. The studies thus far have been far more pharmacologic, experimental and surgical than clinical, and directly related to internal medicine. This is shown by the researches of Crile,[1] Cannon[2] and Rich,[3] as compared with the paucity of researches by internists. Huchard and Mougeot,[4] Grasset and Calmette,[5] Muenzer,[6] Knapp,[7] Martinet[8] and Reynaud,[9] in Europe, and Piersol,[10] Emerson,[11] Lawrence,[12] McCrae[13] and Goodman,[14] in America, have discussed the subject from various points of view. Faught[15] says that "unfortunately the literature almost entirely lacks exhaustive studies of low blood systolic pressures," and Goepp[16] says that "a little attention has been given to the subject, at least in its relation to chronic disease." Sir Clifford Allbutt[17] probably expressed the general feeling of internists when he wrote of hypotension that it is "a study that I have yet to begin." The research problems afforded by the subject are numerous and inviting.

Each writer has arbitrarily stated his opinion of the lowest limit of normal systolic pressure and at what figure hypotension really begins. There is no general agreement among internists as to the upper systolic limit of hypotension. Janeway[18] placed the upper limit at 100 mm., and Oliver[19] at 125 mm. The limit is stated in terms of palpatory readings by some authors, and in terms of auscultatory readings by others. Each series of hypotension pressures tends to vary according to the opinion of the writer as to what constitutes hypotension, and this in turn varies according as the pulse readings are by palpation or by auscultation.

The majority of authors place hypotension at 110 mm. and below. Very little is said about the diastolic pressure. Out of our second series with 350 cases, 118 had a systolic reading of 110 mm., or more than 33 per cent. In this study, 110 mm. and below, systolic pressure, is assumed to constitute hypotension. All readings were by the stethoscope and auscultation, were taken three times at a single examination, the patients were lying on their backs, and a mercury instrument was used. As a rule, the patients were ambulatory office patients in private practice, except as otherwise indicated in Table 10.

CLASSIFICATION OF HYPOTENSION

One obstacle to a better understanding of low blood pressure has been the absence of any general classification other than to state that certain individuals in apparent health had low pressure, and that certain diseases were characterized by the condition. The internist gives Addison's disease and tuberculosis as examples of disease with hypotension, and the surgeon accents shock. With our present knowledge, a classification is based only on the conditions in which hypotension occurs, and cannot be a causal classification.

* Read before the Section on Practice of Medicine at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

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The association of hypotension with a disease does not mean that the associated disease is the cause of the hypotension. It may be or it may not be. Association is not necessarily cause. An individual with hypotension, whether in health or with any medical or surgical condition, may be placed in a general class, according to the classification given below. With this as a starting point, further exact studies on the causes of low tension become possible.

TABLE 1.—GENERAL PRESSURE AVERAGES AND TOTALS

	Number Cases	Heart Normal	Heart Diseased	Systolic Pressure	Diastolic Pressure	Pulse Pressure	Pulse
Hyperpressure..	131	57	74	176	103	73	85
Normal pressure	164	125	39	130	79	51	82
Hypopressure...	205	165	40	109	70	39	81
Totals.....	500	347	153				

Five series of cases are presented for study and analysis. Series 1 includes 205 cases of hypotension, collected in 1917.

As indicated by Table 1, of the 500 cases, 131, or 26 per cent., were hypertension cases; 164, or 33 per cent., normal, and 205, or 41 per cent., hypotension cases. After all that has been done on hypertension, it is of the infections, surgical conditions, and nutrition in general. A heart suddenly thrown into auricular fibrillation may be the variable factor in one case. The pump has gone wrong. The vessels may be the variable factor in a faint. The bed has gone wrong. In such a case the nervous system is the outside influence on the vessel. An advanced anemia with cachexia or a severe hemorrhage may be the variable factor in another case. The stream has gone wrong. But probably more perplexing from the point of view of pure physiology are those healthy persons, or apparently healthy persons with low tension. Where does the cause lie in these?

TABLE 2.—GENERAL PRESSURE AVERAGES BY SEX, AGE AND HEART CONDITION

	Cases	Sex		Age		Heart Normal		Heart Diseased		Systolic Pressure		Diastolic Pressure		Pulse Pressure		Pulse	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Hyperpressure....	131	70	61	50	49	26	31	44	30	173	180	105	101	68	79	84	86
Normal pressure..	164	82	82	41	40	58	67	24	15	131	129	81	80	50	49	80	82
Hypopressure.....	205	103	102	42	39	82	83	21	19	109	108	70	68	39	40	78	82
Totals.....	500	255	245	44	42	166	181	89	64	134	133	83	80	51	53	89	84

TABLE 3.—DISEASES BY DECADES AND CASES

Diagnosis	Age, Males								Age, Females								Total Men and Women
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total	
Digestive system.....	1	5	4	..	..	..	..	10	..	3	6	1	1	..	..	11	21
Circulatory system.....	1	2	4	3	1	5	1	17	1	1	3	3	4	3	..	15	32
Respiratory system.....	2	1	2	1	..	..	..	6	2	2	..	..	..	..	..	5	11
Infectious diseases.....	4	7	7	4	..	..	..	22	7	1	4	1	..	..	..	13	35
Tuberculosis.....	3	5	2	2	..	..	..	12	3	1	..	..	..	..	..	4	16
Neurosis.....	3	1	2	..	..	..	..	6	8	8	3	1	..	..	..	20	26
Somasthenia.....	1	6	4	2	..	..	..	13	5	4	2	..	..	..	..	11	24
Anemia.....	1	1	..	2	..	..	..	4	..	3	..	..	..	..	..	3	7
Cachexia.....	..	..	..	..	2	..	..	2	..	..	1	1	..	..	..	2	4
Intoxications.....	1	3	3	..	..	..	..	7	..	1	..	..	..	..	..	1	8
Pellagra.....	..	..	2	..	1	..	..	3	2	6	4	1	..	..	..	13	16
Nephritis.....	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Pelvic diseases.....	..	..	..	..	..	..	..	..	..	1	2	1	..	..	..	4	4
Totals.....	17	32	30	14	4	5	1	103	28	32	25	9	5	3	..	102	205

1. Hypotension associated with comparative health.

2. Hypotension associated with complaints of weakness, inertia and easy exhaustion. Somasthenia. Somasthenic states. Somasthenics.

3. Hypotension associated with disease, as cardiac disease, tuberculosis, anemia, fevers and infections.

4. Hypotension in surgery, as in trauma, hemorrhage, anesthesia or shock.

5. Hypotension in experiment, as with drugs, after suprarenalectomy, and experimental surgical states.

With the foregoing simple divisions in mind, hypotension becomes a problem of physiology primarily and of pathology secondarily. It is a problem of the circulation. The circulation is a closed system consisting of the heart, the vessels—artery, capillary and vein—and the blood. The pump, the bed and the stream are the three factors. They are variables in the constant that we call the circulation. The cause of hypotension lies somewhere among these three factors. It may involve one, two or all three of them. Two of them, the heart and the vessel, are under the varying influences of the nervous system, the endocrines and the metabolism, and all three are under the influence

Table 1, of the 500 cases, 131, or 26 per cent., were hypertension cases; 164, or 33 per cent., normal, and 205, or 41 per cent., hypotension cases. After all that has been done on hypertension, it is somewhat surprising to find a larger percentage of the hypotension cases. One notes that, the higher the pressure, the larger the percentage of diseased hearts: 56 per cent. in the hypertension, as against 20 per cent. in the hypotension cases. Further, there were more diseased hearts in the normal pressures than in the low pressures: 24 per cent., as against 20 per cent.

Between the systolic hypertension and hypotension, there is a difference of 67 mm.; between the diastolic pressures, a difference of 33 mm., and between the pulse pressures a difference of 34 mm. The swing upward, the plus amplitude above normal, is greater than the swing downward below normal, the minus amplitude. In the hypotension cases there is a less proportionate fall in the diastolic pressures than in the systolic and pulse pressures. The circulatory mechanism tends to conserve the diastolic pressure; in hypertension it does not usually rise proportionately to the systolic pressure and in hypotension cases it tends to cling closer to the normal.

The variations in the pulse rate were slight. The hypertension cases show 85 against 81 in hypotension.

Perhaps a factor here is, as has been already noted, the higher the pressure the worse the heart in the series; the lower the pressure, the more normal the heart and the lower the pulse. Lower pressures tend slightly to lower pulse rates.

TABLE 4.—PRESSURE BY DISEASES

Diagnosis	No.	Age	Sex		Heart		Systolic Pressure	Diastolic Pressure	Pulse Pressure	Pulse
			M.	F.	Normal	Diseased				
Digestive system..	21	42	10	11	21	..	110	69	41	81
Circulatory system	32	53	17	15	4	28	115	67	48	80
Respiratory system	11	41	6	5	9	2	104	70	34	80
Infectious diseases	35	37	22	13	31	4	110	70	40	80
Tuberculosis	16	36	12	4	16	..	105	68	37	88
Neurosis	26	36	6	20	25	1	107	69	39	80
Somasthenia	24	37	13	11	22	2	107	70	37	79
Anemia	7	35	4	3	6	1	102	68	34	69
Cachexia	4	55	2	2	4	..	113	63	50	80
Intoxications	8	37	7	1	7	1	106	72	34	79
Pellagra	16	39	3	13	15	1	105	66	39	85
Nephritis	1	80	1	..	1	..	115	80	35	93
Pelvic disease	4	44	..	4	4	..	111	77	34	76

Table 2 shows hypotension rather equally distributed between the sexes, 103 males and 102 females. The average age for hypertension is about 9 years above that for hypotension. The hypertension cases show an average higher pressure in women of 7 mm. whereas, in the hypotension cases, the two sexes show practically the same pressures. The diastolic pressures are lower in women. The pulse pressures vary only 1 mm. The pulse rate with hypotension in women is 5 higher than in men.

Table 3 is an analysis of the 205 hypotension cases by diseases, decades and sex. There is little noticeable difference in the sexes, except that the neuroses and pellagra are more prevalent in women, and tuberculosis, intoxications and infections in men. Disease rather than hypotension is the determining factor. The second, third and fourth decades are, as a rule, the decades of hypotension, though the relative hypotension in the decrescent sclerosis of the aged is a notable exception. Under somasthenia, to be discussed later, is a group of thirteen men and eleven women, with no mental or nervous symptoms, that I have called somasthenics.

TABLE 5.—ABSOLUTE AND RELATIVE HYPOPRESSURE

Diagnosis	No.	Age	Sex		Heart		Systolic Pressure	Diastolic Pressure	Pulse Pressure	Pulse
			M.	F.	Normal	Diseased				
Absolute hypopressure	89	36	42	47	75	14	100	65	35	81
Relative hypopressure	116	45	61	55	90	26	116	72	44	80

Table 4 gives hypotension by disease, group, number, average, sex, and relation to the condition of the heart. The lowest average is in the anemias, and the highest in the circulatory diseases; advanced age in the last group is a probable factor, and the term "relative hypotension" is used for cases below the normal for the age of the individual. The somasthenics average only 107 mm. The average age in tuberculosis is 36, and the pressure only 105 mm. With the exception of four groups, the pulse pressures average in each group from 34 to 39 mm. The pulse is notably uniform.

Table 5 refers to comparison of absolute hypotension, i. e., cases with a systolic pressure of 110 mm. or below and cases of what in this first series of 205 cases is called relative hypotension, to be discussed later. Two facts are evident from this table: (*a*) The lower the pressure, the less frequent are pathologic conditions of the heart. (*b*) The rate of the pulse is not a determining factor in hypotension with a difference of 16 mm. in the systolic pressures. In the two cases, the pulse rate shows a variation of only 1.

Table 6 gives the complaints in order of frequency. These are the personal complaints of the patients, and the reasons that caused them to seek medical aid. Of the 205 patients, sixty-two, or 30 per cent., complained of exhaustion; thirty-one, or 15 per cent., of nervousness; twenty-eight, or 14 per cent., of headache; twenty-one, or 10 per cent. of indigestion; sixteen, or 8 per cent., of constipation; the same number of abdominal pain; fourteen, or 7 per cent., of pain or numbness in the extremities, and twelve, or 6 per cent., of backache or phobias. The chief symptoms in order are exhaustion, nervousness and headache. I did not find as large a percentage of vertigos as did Goodman [19] —only eight cases in the series.

Table 7 represents 3,389 persons with hypotension accepted for insurance by the Northwestern Insurance Company to Oct. 1, 1920. The pressure in these cases ranged from 90 to 100 mm. by palpation. This would average from 100 to 110 mm. by auscultation. This includes a period of eight years from 1913 to 1920, inclusive. There were only twenty-six deaths, and of these eight were casualties and ten were due to influenzal pneumonia, with only eight due to other diseases. The medical director [20] states that:

TABLE 6.—COMPLAINTS IN ORDER OF FREQUENCY

Exhaustion	62	Vertigo	8
Nervousness	31	Nausea	7
Headache	28	Colds	7
Pain in chest	21	Palpitation	6
Indigestion	20	Diarrhea	6
Constipation	16	Insomnia	5
Abdominal pain	16	Anorexia	5
Pain, numbness of extremities	14	Rheumatism	4
Backache	12	Gas	4
Phobias	12	Chill	4
Dyspnea	10	Asthma	3
Fever	10	Edema	3
Miscellaneous	11	Facial paralysis	2
Loss of flesh	9	Itching	2
Eruption	9	Hemorrhage	2
Cough	9		

> The company has declined comparatively few cases wholly on account of low arterial tension. In those cases declined with a low blood pressure, there were other impairments which led to the rejection of the applicant. We have not found in any of our death claims of insured members, where, for instance, the death was due to tuberculosis within two years of the issuance of the policy of insurance, that the

TABLE 7.—ACCEPTED LIFE INSURANCE CANDIDATES WITH PALPATORY SYSTOLIC BLOOD PRESSURE OF 100 MM. AND UNDER

Years	Ages at Entry: 16 to 34		35 to 60		All Ages at Entry	
	Number	Deaths	Number	Deaths	Number	Deaths
1912	5	0	4	0	9	0
1913	170	2	56	1	226	3
1914	150	2	45	1	195	3
1915	133	2	41	0	174	2
1916	286	3	81	1	373	4
1917	319	6	104	2	423	8
1918	208	1	140	1	348	2
1919	610	2	282	2	892	4
1920	521	0	228	0	749	0
Total	2,402	18	981	8	3,389	26

20. Fisher, J. W.: Personal communication to the author.

blood pressure at the time of the approval of the application varied perceptibly from the averages for the age.

Table 8 represents an analysis by age, pressure and hemoglobin of 350 cases of hypotension occurring in 1,950 cases in private practice, or approximately 18 per cent. The women outnumber the men by thirty,

TABLE 8.—ANALYSIS BY AGE, BLOOD PRESSURE AND HEMOGLOBIN OF THREE HUNDRED AND FIFTY CASES OF HYPOTENSION

	Average Age	Blood Pressure			Hemoglobin by Sex
		Systolic	Diastolic	Pulse	
Men (160)	38	102	62	40	79
Women (190)	34	104	68	36	83

or approximately 19 per cent. This would seem to indicate that hypotension is more common in women than in men, as the two sexes occur in nearly equal numbers in the series: of these 1,950 patients, 974 were men and 976 were women. It is significant that the blood pressure among the women is 2 mm. higher, though their average age is four years less than the men. Further, the hemoglobin is 4 degrees higher than the men, 83 compared to 79. We have felt that this discrepancy in the hemoglobin is probably due to the fact that men as a rule wait longer to consult a physician and allow their pathologic condition to advance further than women. They are sicker when they come for diagnosis than women. Further, in the Southern states, an average of 83 per cent. hemoglobin by the Dare hemoglobinometer is certainly a fair average for women, much less diseased women.

TABLE 9.—DISEASES IN THREE HUNDRED AND FIFTY CASES OF HYPOTENSION (MEN, 160, WOMEN, 190) CLASSIFIED BY SYSTEMS

Digestive system	190	Psychoneurosis	58
Vascular system	134	Psychosis	3
Arteriosclerosis	4	Diseases of metabolism	12
Secondary anemia	56	Tuberculosis	20
Angina pectoris	1	Chronic tonsillitis	102
Mitral disease	15	Pyorrhea	43
Hypertrophy of heart	15	Periapical infection	34
Myocardial insufficiency	15	Miscellaneous infections	33
Miscellaneous	28	Intoxications	15
Pelvic diseases	55	Pellagra	23
Urinary diseases	27	Somasthenia	15
Respiratory disease	35	Endocrine system	16
Diseases of nervous system	19	Miscellaneous	24

Table 9 is an analysis of the diagnosis of these 350 cases of hypotension arranged by systems of organs. There is some interesting evidence in this analysis. One patient may have several diseases present. Each patient, as a rule, has more than one disease or one condition present. There were 1,002 different diseases in the 350 patients, or an average of nearly three per patient. The diseases of the digestive system lead, with 190; next, the vascular system, with 134. It is interesting to note that there are fifty-six cases of secondary anemia. This and tonsillitis are very frequent chronic diseases in the Southern states.[21] An anemia not primary, which by the Dare hemoglobinometer is 70 or below, is classified in this series as secondary anemia. There are only four cases of arteriosclerosis in 350 cases of hypotension, and all the cases of cardiac hypertrophy and myocardial insufficiency were associated with mitral disease. Unless some other disease is present, we have uniformly found mitral stenosis to be associated with hypotension. Pelvic diseases number fifty-five, of which laceration of the perineum is more frequent with its accompanying rectocele and cystocele; next, laceration of the cervix with accompanying cervicitis; and lastly, fibroid tumors are the three most frequent conditions in this group. Most interesting of all probably is the large number of cases of chronic tonsillitis, 102; pyorrhea, 43, and periapical infection, 34. It is our impression that chronic focal infections tend to secondary anemia and hypotension. Of course, the exceptions to this impression are most numerous. There are twenty-five cases of somasthenia, or one case of every fourteen of hypotension.

Table 10 includes 101 negroes, of whom forty-seven were men and fifty-four women of 20 years and older. Women outnumber men by seven, and their average age is 7 years less. The systolic pressure in men is only 1 mm. more than in women. The diastolic pressure is the same in the two sexes, and the pulse pressure in women 1 mm. less. It seems that the two sexes when sick give the same hypotension averages, though the men average 7 years older. These negroes were sick in the general medical wards, and included chiefly infectious diseases, such as typhoid and pneumonia, heart disease, diabetes, diarrheas, malignancies, syphilis and arthritis. These 101 cases of hypotension occurred in 289 adult negroes, of whom 167 were men and 122 were women. Of the total, 35 per cent. had hypotension. I have no figures showing the blood pressure averages in normal adult negroes, but it is my impression that blood pressure in normal negroes is somewhat lower than it is in normal white persons in the Southern states, though we have no actual figures to compare or to prove this statement. It is simply a clinical impression.

TABLE 10.—FINDINGS IN TWO HUNDRED AND EIGHTY-ONE ADULT NEGROES

Blood Pressure	Male	Age	Systolic	Diastolic	Pulse	Female	Age	Systolic	Diastolic	Pulse	Total No.
Low	47	32	103	68	35	54	25	102	68	34	101
Normal	89	39	127	79	48	34	33	124	84	40	123
High	30	42	191	124	67	27	48	182	116	60	57

Table 11 includes twenty-nine white adults, of whom sixteen were men and thirteen women. The average age of the men is fifty-eight and of the women fifty-three. The average systolic pressures are the same. There is a variation of 8 less in the diastolic pressure in women and 8 more in the pulse pressure in women. The hemoglobin in both sexes is above 70 and would not be considered low in the South for this average age. From a study of this table and all the cases that compose it, we are impressed with the fact that the hemoglobin is not a determining factor in hypotension. To express it differently, a person may have a hemoglobin of 90 and a hypertension lower than

TABLE 11.—RELATIVE HYPOTENSION, BLOOD PRESSURE 111 TO 119 INCLUSIVE, IN PERSONS AGED 45 YEARS AND OVER

	Number	Age	Systolic Pressure	Diastolic Pressure	Pulse Pressure	Hemoglobin	
Male	16	58	115	79	36	73	Highest 90 Lowest 50
Female	13	53	115	71	44	71	Highest 85 Lowest 50

21. Medical Department of U. S. Army in the World's War 15, Statistics, Pt. 1, Army Anthropology, p. 326.

another person of approximately the same age with a hemoglobin of 50.

RELATIVE HYPOTENSION

The mooted clinical phrase "relative hypotension" seems to have been used with three different meanings:

(*a*) The phrase seems to have been applied to a loosely used clinical rule that the average blood pressure for a person of 20 years of age is 120, and that normally the pressure should increase 1 mm. of mercury for every two years of age over 20. If, for example, a person under this rule is 60 years of age, he should have a blood pressure of 140 mm. If, now, his pressure is 125, it is 15 mm. below the normal for the age of 60, and under this use of the term he is said to have a relative hypotension.

(*b*) A second clinical use of this phrase has been made in reference to hypertension cases which, as a result of treatment or advancing disease, show a decided drop from their former hypertension level. As a result of this drop they are said to be in a state of "relative hypotension," even though the blood pressure may be above normal. For example, a person with chronic nephritis and a blood pressure of 220 mm. may, as a result of cardiac dilatation and myocardial decompensation, develop a rather rapid fall in blood pressure to 150 mm. Under this use of the term he has a "relative hypotension."

(*c*) It is clearly evident that either of these two applications of relative hypotension is rather unnecessary. The first is an arbitrary application of an arbitrary rule that sharply relates blood pressure in millimeters of mercury to age in years. This does not permit accurate conclusions. The second use is unnecessary because it simply expresses a fall in blood pressure from hypertension to less hypertension or to normal.

There is, however, a class of cases that we have come to feel justify the application of the term "relative hypotension." Out of our last series of 1,950 private cases there are twenty-nine cases listed in Table 11 which are far below the normal for these individuals. The clinical impression prevails that a person of 45 years or older ought to have a systolic pressure of 120 mm. If his pressure is between 110 mm., or the beginning of hypotension, and 120 mm., the average of normal tension, the case belongs in the relatively infrequent class to which with reason we may apply the term "relative hypotension." We would therefore restrict it to persons of 45 years and older whose pressure ranges from 111 to 119 mm., both inclusive.

SOMASTHENIA

In the first series of 205 cases are included twenty-four cases and, in our last series of 350 cases, twenty-five cases, or a total of forty-nine patients whose condition seems to partake of chronic exhaustion or of inability to maintain a normal active life without easy exhaustion; and the chief demonstrable condition seems to be hypotension. Goodman [14] called attention to what he termed "cases of low blood pressure occurring in the absence of any demonstrable organic lesion. These have been patients, for the greater part, on the ascent of the crest of the curve of life." He gives five illustrative cases, with variable symptoms, foremost among them being vertigo, and mental and physical fatigue. They were improved by exercise, elimination and large doses of nux vomica. In different words, Lawrence [12] calls attention to the same syndrome. He includes such symtoms as "apathy, sometimes amounting to actual physical weakness, poor appetite and sleep, and tendency to headache after ordinary exertion." In short, the patients are unable to perform what is an easy day's work for the normal individual without experiencing symptoms of fatigue. The condition is usually diagnosed as neurasthenia, debility or, in the absence of an examination of the blood, anemia.

The group may be thus characterized:

1. Age between 20 and 40 years, rarely after 40.
2. Women predominate.
3. Complaints, in order of frequency, are exhaustion, nervousness, headache, pains in chest, abdomen or extremities, indigestion, constipation, backache, dyspnea, insomnia and palpitation.

The three chief complaints are exhaustion, lack of endurance and headache. Low blood pressure is present. The patients are not neurasthenics, and, apart from the diagnosis of visceroptosis or mild focal infections or hypochlorhydria or secondary anemia, no actual pathologic condition can be demonstrated. These cases cannot be classified under the psychoneuroses. The term somasthenia is applied to the condition, and the term somasthenic to the patient.

CONCLUSIONS

A consideration of the blood pressure records of 440 cases of absolute hypotension and 145 cases of relative hypotension suggests that:

1. Hypotension seems generally to be equally distributed between the sexes.

2. Hypotension patients have proportionately more normal hearts than have normal persons or hypertension patients. As the pressure rises the heart is more likely to be diseased.

3. The pulse rate is not a determining factor in hypotension. It tends to rise only very slightly with rising pressure.

4. The rate of the pulse is more dependent on the sex than on the blood pressure, as indicated by Table 2.

5. Hypotension may accompany different diseases. It is difficult to prove the influence of the disease in the causation of the hypotension because, as a rule, the pressure before disease is unknown.

6. The lowest pressures occur in secondary anemia, pellagra, somasthenia, neuroses, tuberculosis and the acute infections of the respiratory tract.

7. Relative hypotension is a term that should probably be restricted to persons of 45 years and older whose pressure ranges between 111 and 119, both inclusive.

8. The classification of hypotension is important because it separates hypotension in health from hypotension in disease and makes clearer the intricate problems of low blood pressure.

9. Hypotension is not a bar to insurance in the old line companies, although in one series of 3,389 accepted candidates, the death rate was two thirds greater than the expectancy tables would indicate.

10. Women seem to develop hypotension at an earlier age than men, as indicated by two series of cases.

11. The percentage of the hemoglobin is not a determining factor in hypotension.

12. In diseases of the circulation, secondary anemia is the most common accompaniment of hypotension. Arteriosclerosis and myocardial diseases are relatively rare.

13. Focal infections are common accompaniments of hypotension.

14. In sick adult negroes there are more cases of absolute hypotension than of hypertension.

15. Hypotension seems to tend to accompany acute diseases characterized by fever and chronic diseases characterized by diarrheas, as amebic dysentery, sprue and pellagra.

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ABSTRACT OF DISCUSSION

DR. GEORGE DOCK, St. Louis: It is interesting to see that in most of Dr. Roberts' cases with hypotension the diastolic pressure does not seem to be very low. I have noticed that in my own cases. A patient may have a low pressure systolically, but a diastolic pressure of 80 or 85. This must play an important part in the symptoms of some cases; and a more careful study of the diastolic and systolic pressures might show some interesting features. Most patients have appeared because their pressure was high, and they have an exaggerated fear of high pressure. They have an idea that there are certain norms; and then if a man of 50 has a pressure of 150, he gets alarmed over it. I venture to say that the knowledge of this paper will spread. People will learn that there are low pressures; they will have their pressures taken, find they are low, and we shall have a better opportunity to study cases than we have had heretofore with only accidental material. Some of these cases are the result of incidental disease, such as pneumonia. Others seem to be associated with defective conditions, muscular and otherwise, which are extremely important and sometimes extremely annoying to the patient.

DR. JOHN PHILIPS, Cleveland: Dr. Roberts' paper is particularly timely because of the tendency until very recently to pay little, if any, attention to hypotension, probably because of the especial menace of hypertension—the development of arteriosclerosis. It is especially important that we should not diagnose the presence of either hypotension or hypertension on the evidence of a single estimation of the blood pressure, although there is more chance of error in the case of hypertension, since the blood pressure tends to rise under excitement. Sometimes a blood pressure measurement on a patient's first visit to the physician may be from 50 to 60 mm. higher than on the second visit. These cases fall into several groups clinically. One group, as Dr. Roberts said, comprises persons in apparent health. Another group consists of persons who are easily exhausted, these for the most part being women who lead an active social life. Many of them have visceroptosis, and on inquiring into their childhood history, one finds that they were inclined to faint in school and showed orthostatic albuminuria. In another group the hypotension follows an infection, influenza in particular. These cases show a persistently low systolic blood pressure. Rolleston has asserted that the hypotension in these cases is due to some disturbance of the suprarenals by the toxin of influenza. Another group includes the myocardial cases in which, as Dr. Dock has said, the systolic pressure may be low, but the diastolic pressure will be elevated so that the pulse pressure will be only 20. Such a condition is pretty good evidence that there is a weakened myocardium. Still another group comprises the anemias, with the exception of certain types of anemia which are associated with marked lowering of the kidney function with high blood urea and a low phenolsulphonephthalein output. In these cases, hypertension rather than hypotension is present. In pernicious anemia, the blood pressure is low, as a rule.

DR. JOHN G. MCLAURIN, Dallas, Texas: Just what is to be considered hypotension? It has never been well defined. In fact, it varies greatly, so that what is considered hypotension in one person might not be considered such in another person of the same age. It is probable that a systolic pressure below 110 in a person of 35 should be considered as hypotension. To state just what constitutes a diastolic hypotension is still more difficult. High blood pressure has been diligently studied for a long time; but low blood pressure, which is almost as important a symptom, has been sadly neglected. Hypotension is dependent on some pathologic condition, and it is important that this should be looked for; a careful search will usually reveal the true condition responsible for it. Sometimes the etiologic factor is quite evident. It is usually present in acute infection, such as typhoid fever, pneumonia and influenza. And, I think, it is fortunate that the blood pressure has been low in these acute infections. The hemorrhage in typhoid fever is probably to some extent controlled by hypotension. Then it is seen in certain chronic infections, such as tuberculosis; in myocardial degeneration from lack of muscle tone; in a decompensating heart, and in anemia of the heart muscle. Sometimes it occurs at the height of an attack of angina pectoris. Internal glandular disturbances, such as diseases that diminish the secretion of the suprarenals, are associated with hypotension. It may occur in hypothyroidism and hypopituitarism, in the menopause, probably being a disturbance in the endocrine system. Focal infections may also play their part; whether it is the effect of a liberated toxin on the musculature of the arterioles, or a toxin action on the nerve control of the arteriole, is not definitely known. I am of the opinion that it is usually an arteriole dilatation resulting from a partial paralysis of the vasoconstrictors due to a toxin. I do not believe in the existence of essential hypotension. It is a symptom, not a disease. Hypotension is frequently the cause of considerable discomfort, and probably in many cases more discomfort than would result from the same degree of hypotension.

DR. L. F. BISHOP, New York: I can hardly agree with Dr. Roberts that this subject has not been written about. The literature is quite extensive, and, strangely enough, the Italian literature has been particularly rich in it. The consideration of the low blood pressure patient has been before us for a long time in different forms. We can divide cases into three important groups: first, the hypotension that is due to auto-intoxication, or infection of some kind. In many instances this group constitutes the early stage of high blood pressure. The persons who in early life suffer from low blood pressure of an infectious type will later on have high blood pressure. The second group is the group which I classified twenty years ago as constitutional low arterial tension. This is simply naming in another way a condition for which every clinician has a name. I think that Dr. McKenzie called it the X disease. The army men included it in neurocirculatory asthenia. It is a constitutional condition. These persons have a defective circulatory mechanism which manifests itself in low blood pressure. These people are the so-called neurasthenics, and we have to recognize them as a definite group. They do better on forced outdoor exercise and a good hygienic regimen. They live to a miserable old age, and they all suffer from some circulatory defect. Probably endocrinology will give us a clue to this problem. Then there is the group of secondary low blood pressure cases. The measurement is not low, but it is low compared to what the patient has been carrying. The patient may come into the hospital with a systolic blood pressure of 180, but still it may be a relatively low blood pressure as it is below the pressure of 200 which he has been carrying. The main point is that we must not allow primary low blood pressure to cause anxiety to ourselves or to our patients. My experience is that in all of these cases, when disease or accident demands a higher pressure, nature will produce it. The final point I want to make is that low blood pressure has very little to do with heart disease, and is a matter of the nervous system and peripheral blood vessels.

DR. ALEXANDER LAMBERT, New York: No doubt many disease conditions produce low blood pressure, and many healthy persons carry low blood pressure and show no symptoms. They are vigorous people. I remember a patient who had a systolic pressure of 69. Then it rose to 160. Then he had an attack of tobacco angina, and his pressure dropped back to 89. Later it had risen to 120. Low blood pressure is consistent with good health and not necessarily a disease condition. That is my one point.

DR. LOYD THOMPSON, Hot Springs, Ark.: I have noted a rather persistently low blood pressure in late syphilis, that is, syphilis after one year. About 90 per cent. of these cases show a blood pressure of below 90 or below 110 at the highest.

DR. ELLSWORTH SMITH, St. Louis: It has been said that hypotension is not associated with arteriosclerosis. While it may not be associated with arteriosclerosis, of course, nearly as often as is hypertension, still there is a well defined group of cases of arteriosclerosis with hypotension, the case in which the sclerosis is developing as a primary degenerative process in the arterial walls not secondary to hypertension. In the hypertension cases, the cause of the sclerosis is the strain on the vessel wall; but in these so-called involutionary forms of arteriosclerosis, well defined arteriosclerosis even to the pipe stem beaded vessels may be present with a very low blood pressure. I want also to accentuate the fact brought out by Dr. Dock, and that is the importance of the diastolic pressure in these cases. I agree with him that this explains very largely those cases of persons who go through life comfortably with their circulation perfectly compensated, although the systolic pressure is quite low.

DR. STEWART R. ROBERTS, Atlanta: I am disposed to agree with most of the speakers in what they have said. The anesthetists find that with a falling diastolic pressure during anesthesia they can foretell the beginning of danger and the onset of shock for twenty minutes before serious symptoms arise. The surgeons on the western front during the war gave a rather unfavorable prognosis in those cases in which there was a diastolic pressure of 60 when the patients came into the casualty stations. Each of us in internal medicine sees ambulatory cases in which the diastolic pressure is 60 or below. It is impossible within the time allowed to go into the various phases of this subject. For instance, on the Gulf Coast more persons have hypotension than hypertension. Dr. Thayer referred to this phase of the subject many years ago. We have one patient whose pressure is reduced 25 mm. by a hot bath. Newberger has written on the influence of heat in producing hypotension. Such phases of the question will be discussed in the future.

AN ANALYSIS OF A SERIES OF CASE RECORDS RELATIVE TO CERTAIN PHASES OF BREAST FEEDING*

HENRY DIETRICH, M.D.
LOS ANGELES

This analytic study is based on a series of 1,000 records of almost consecutive cases seen in private practice. Hospital and welfare records are purposely omitted because I wish to demonstrate what happens to the infant of the middle class of our population.

These patients employed a physician to care for mother and child during and, frequently, also after the obstetric period. Most mothers and nurslings are, and should be, cared for by the general practitioner. If we approach the subject from this practical standpoint, the general practitioner, whom I shall speak of as the obstetrician, must be impressed with the fact that he is constantly responsible for two patients, the mother and the child. Once imbued with this fact, he should aim to become as proficient in the care of the nursling, in all phases of its welfare, as he is in the care of the mother.

The obstetrician must feel that the state of nutrition and general well-being of the young infant is, to a great extent, dependent on the vigilance he devotes to it, and to the time and care he dedicates to the establishment and maintenance of breast feeding. Only then does he fulfil the obligation he assumed when he consented to care for the mother during parturition.

Jacobi stated, many years ago, that 85 per cent. of deaths under 1 year of age occur in the bottle-fed infant. If this is still true, a further lessening of our infant mortality depends largely on feeding the infant at the breast during the greater part of the first year of life.

TABLE 1.—LENGTH OF TIME OF BREAST FEEDING IN 1,000 CASES

Weeks				Months								
0	1	2	3	1	2	3	4	5	6	7	8	9
	139											
48	41	24	26	67	74	90	62	41	71	52	103	299
89				370							402	

This can be accomplished only if we have the wholehearted cooperation of the obstetrician. I shall allow you to judge for yourself, after I have presented my figures, whether breast feeding is given the time and attention on the part of the obstetrician that I ask for it.

REVIEW OF CASES

The review of these cases will be discussed under five headings.

1. *How Long Was the Infant Breast Fed?*—We are confronted with the startling fact, as shown in Table 1, that 370, or 37 per cent., of these infants were nursed at the breast three months or less. Against this, we have 402, or 40 per cent., who were nursed eight months or more. Going a little more into detail, ninety mothers stated that they nursed their offspring less than one week. In other words, 9 per cent. of these mothers were allowed to or at least did deprive their children of their natural food within eight days of birth. Ablactation was allowed in 139 nurslings before they were 4 weeks old. Surely this does not speak well for the many efforts put forth in past years to encourage breast feeding.

During these early periods, the patients, we must assume, were still under the observation of the obstetrician. Undoubtedly, a large number of these mothers, if they had had the proper medical and moral support on the part of the obstetrician, could have nursed their offspring. Furthermore, this is the period during which the breast milk supply often is not established to its full extent, and the mother requires advice and often encouragement from her medical adviser to overcome temporary difficulties. At this time, the obstetrician must practice both the science and the art of medicine, must give of his time and patience, and must be alert to counteract ill advice from outside sources.

2. *Was an Attempt Made to Estimate Quantity of Milk and, If Deficient, Were Complemental Feedings Resorted To?*—In only eighty-four cases of this series were complemental feedings advised and given. Practically all others stated that the child was weaned without an effort being made to estimate the quantity of breast milk. Of the eighty-four infants, 75 per cent. were put on complemental feedings by me. This would tend to show that the practice of determining the amount of breast milk and the use of complementary

* Read before the Section on Diseases of Children at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

feedings is rarely resorted to by the obstetrician. Yet it is a simple procedure, being far more practical and accurate than the milk analysis which is frequently given as the cause for weaning. I was interested also in the length of time that a child was kept at the breast after complemental feedings were established. A summary of eighty-four cases is presented in Table 2.

The belief that insufficient gain, restlessness, curds in the stool, etc., are due to poor quality of milk is still far too common. Insufficient milk is more often at fault than the quality of the milk. Complemental feeding can be carried on for months, and, during this time, the infant, in many instances, receives 30 to 75 per cent. of its food in the form of breast milk. This condition obviously is preferable to bottle feeding. The argument is advanced that accurate scales are expensive and that weighing a child before and after feeding is irksome to the mother. Scales can be rented in all large cities and are less expensive than the price paid for milk over a period of months. Again, it is not at all necessary to weigh the child before and after each feeding; checking up the amounts once or twice a week and striking an average is sufficient.

3. *If Supplemental Feedings Were Given, How Long Was the Child at the Breast After Feedings Were Started?*—Here we included those cases in

TABLE 2.—LENGTH OF TIME BEFORE WEANING AFTER COMPLEMENTAL FOOD WAS GIVEN (EIGHTY-FOUR CASES)

Weeks			Months							
1	2	3	1	2	3	4	5	6	7	8
0	1	0	4	13	22	14	22	4	3	1
5										

which two or more bottles were substituted for breast feedings. In eighty-three cases, we have definite information that this was done with the idea of keeping the baby at the breast and not with the idea of weaning it. Many times we were told that the physician explained to the mother that by following this procedure and nursing the child two or three times in twenty-four hours, or often only at night and in the morning, the breasts would fill up. This is a striking example of the fact that these men did not comprehend that only regular, thorough emptying of the breasts will maintain a milk supply and that any other course must quickly lead to bottle feeding. The length of time elapsing between the institution of supplemental feedings and complete weaning bears this out, and the figures as presented in Table 3 are in marked contrast to the figures on complemental feedings.

I am not unmindful of the fact that a mother who cares for her children and her home has many duties. Therefore, in cases in which the milk supply is well established, I believe that one bottle feeding may be given after the third or fourth month. We must use our judgment, as some mothers will take advantage of this privilege and gradually wean the child; while other mothers are actually benefited by this break in the daily routine. We do not sanction the use of the bottle in early infancy. When two or more bottles are given, weaning is not far off.

4. *What Food Was First Given the Child on Weaning?*—In answer to this question, we were agreeably surprised to note the result of the propaganda for pure cow's milk as the best food for the young infant. In 720 cases, or 72 per cent., the infant was given a modified cow's milk without the addition of a proprietary food. The remaining 270 infants were fed as follows: Eagle brand, 105; goat's milk, 36; Nestlés, 6; peptogenic, 2; malt soup, 1; Sunbright, 1; Dennos, 8; condensed milk, 9; milk and Eskay's, 27; milk and Mellin's, 42; malted milk, 29; Dryco, 9; Klim, 1; Allenbury's, 2; Mammala, 2. If we add the cases in which the infants were fed on goat's milk to the 720

TABLE 3.—TIME BETWEEN INSTITUTION OF SUPPLEMENTAL FEEDING AND WEANING (EIGHTY-THREE CASES)

Weeks			Months				
1	2	3	1	2	3	4	5
10	16	5	31	12	6	2	1
62							

in which they were fed on modified cow's milk, we are gratified to find that 756 children were started on milk without proprietary foods. Having been able to educate the laity and profession to the use of modified cow's milk, we should also be able to attain similar results from an intensive campaign in regard to the establishment and maintenance of breast milk.

5. *Reasons for Weaning.*—The reason for weaning was ascertained in 337 of the 371 cases in which the infants were weaned during the first three months. In almost every instance, the physician was consulted and knew that the child was to be weaned. Fifty different reasons were considered valid excuses for depriving these children of breast milk. Of these fifty reasons, we cannot possibly consider more than nine as justifying such a serious step. These reasons are: death of mother; pregnancy; adoption of child; some cases of abscess of breast; tuberculosis; acute illness of mother;

TABLE 4.—REASONS GIVEN FOR WEANING

1. Death of mother	6	29. Cracked nipples	6
2. Cesarean section	3	30. Milk dried up	18
3. Insufficient milk	69	31. Vomiting	6
4. Inverted nipples	5	32. Menopause	1
5. Insufficient gain	26	33. Menstruation	7
6. Poor milk, blue, watery	35	34. Operation on mother	4
7. Bad stools—green stools	14	35. Mastitis	2
8. Weakness of mother	6	36. Eczema on child	2
9. Bad stools	12	37. Physician did not believe in breast feeding	2
10. Refusal of mother to nurse	4	38. Cleft palate—harelip	2
11. Abscess of breast	9	39. Mother too old to nurse	1
12. Toxemia in mother	4	40. Facial paralysis	1
13. Adoption	2	41. Mother became too stout, nourishment all went to mother	1
14. Tuberculosis of mother	6	42. Prematurity—inability to nurse	2
15. Mother had to work	3	43. Child preferred bottle	2
16. Mother had not nursed previous children	4	44. Colic	2
17. Salty milk	1	45. Pertussis	1
18. Social duties	1	46. Hydrocephalus	1
19. Nervousness of mother	10	47. Pylorospasm	1
20. Bad milk—poison milk	7	48. Spastic paralysis	1
21. Acute illness of mother	26	49. Milk ran out and kept mother wet	1
22. Child not satisfied	8	50. Not convenient to have child on breast	1
23. Convulsion of child	1		
24. Acid milk	2		
25. Child would not nurse	5		
26. Pregnancy	4		
27. Milk too rich	2		
28. Baby not strong enough to nurse breast	3		

severe operation on mother; mother had to work, and toxemia of mother. Only sixty-four cases, however, came under these headings, and of these thirty-five are doubtful, since they were due to abscess of breast and acute illness of mother. Among the acute illnesses of the mother, we find the following: herpes

zoster, asthma, influenza, malaria, eczema, fever, pyelitis, pyemia, quinin poisoning, valvular disease, septicemia, infected finger, tonsillitis, insanity and diabetes. Some of these may or may not demand permanent weaning of the child.

Of the 337 infants enumerated, a total of ninety-five were weaned because of insufficient milk or insufficient gain. These two reasons were recorded in more than twenty infants before they were 1 week old. The great majority of these ninety-five infants, with proper care and, if necessary, with complementary feeding, could have been entirely or at least partially breast fed. Curds in the stool, convulsions, pertussis, menstruation, cleft palate, spastic paralysis, prematurity, acid and salty milk, mother had not nursed previous children, etc., are reasons so ludicrous that we hesitate mentioning them except that they demonstrate the lack of a proper conception of the fundamentals of breast feeding. A mass of literature has gone out to the public, but we believe that to accomplish results we must reach not only the public but also the profession. The subject should be discussed more frequently in our medical societies and in our journals. Pediatric societies, we believe, can do considerable good by issuing pamphlets on the subject and distributing them to physicians throughout the country. The Southwestern Pediatric Society issued such a brochure last year and mailed a copy to every physician in southern California. Breast feeding is a vital subject at least once to every human being. Not so with appendicitis; yet the surgeons did not hesitate to speak or write on that subject unceasingly for years, until they had educated the laity and the entire medical profession to the correct point of view. Let us follow their example, endeavoring to make each and every physician as ardent an advocate of breast feeding as he is of the surgical care of appendicitis, with the full realization that, in advocating and carrying on breast feeding, he is practicing preventive medicine in the supreme sense of the word.

Brockman Building.

ABSTRACT OF DISCUSSION

DR. ISAAC A. ABT, Chicago: Dr. Dietrich has shown that 36 per cent. of women nursed their babies at the breast three months or less, while 40 per cent. nursed their babies eight months or more; that at nine months, 9 per cent. nursed their babies less than one week, and that in 14 per cent. the babies were weaned before the age of one month. Dr. Dietrich makes the correct distinction between supplemental and complemental feeding. There is a great deal of confusion about those two words. Complemental feeding is the type in which the baby is given the bottle immediately after the nursing, while supplemental feeding is that type in which a bottle is substituted for nursing. I am in full agreement with the expressed opinion about the stools of breast-fed babies. A slight apparent abnormality in the stools of a breast-fed baby is not of equal significance to that in a bottle-fed baby. After the breasts are functioning properly, it is justifiable to give a supplemental bottle after the baby is 3 months old. If supplemental feedings are begun before the third month, the necessary stimulation to the breast is not supplied. After the third or fourth month, the baby frequently needs additional food. I believe with Dr. Dietrich that when two or more bottles are given early in lactation, weaning is not far off. In the literature one frequently notices the statement that tuberculosis is the one absolute indication for weaning. I think, however, that the reasons expressed in the paper may be accepted. The point we should make is that every baby should be nursed at the breast unless the mother is incapacitated by acute disease or by some mental disturbance or social condition which necessitates her leaving the baby.

DR. WILLIAM A. MULHERIN, Augusta, Ga.: In the South and in the West there is more maternal feeding than in the East and in the North. The reason for this is that Southern and Western physicians are convinced that mothers can nurse their babies. I belong to the Ross Snyder-Sedgwick school. In 1906, Ross Snyder called attention to the fact that there was too little breast-feeding, and that we were drifting too far from nature. Sedgwick gave the modus operandi. There are five essentials which will succeed with maternal feeding: (1) conviction on the part of the physician that mothers can nurse their babies, that breasts are intended not for ornament but to nurse babies; (2) conviction on the part of the mother that she can and will nurse her baby; (3) stimulation of both breasts by nursing the baby at regular intervals; (4) emptying the breasts by manual manipulation after each nursing, and (5) patience and perseverance on the part of physician and mother. From actual practice, I feel convinced of two facts: 1. Nearly every mother can nurse her baby at the breast, if properly encouraged. 2. Nearly every mother's milk agrees with her baby. I know of no single factor or several factors operating today in the interest of babies' welfare that will save more babies' lives than the general adoption of maternal feeding.

DR. T. C. MCCLEAVE, Oakland, Calif.: Physicians all know, from experience, that the responsibility for the condition of affairs Dr. Dietrich described lies primarily with the man who brings the baby into the world. What Dr. Dietrich described as relating to his practice is certainly true in our community. I have in mind one obstetric institution in which babies invariably are fed malted milk as prescribed by the head nurse. Babies are as a routine taken off the breast, and that institution does not stand alone in this practice. The use of the terms complemental feeding and supplemental feeding has been confusing to a great many people. The word "supplemental" does not describe the use of a bottle instead of the breast. The proper term is "substitute feeding." Complemental feeding is a correct term. Two years ago physicians believed that the more food we gave to the mother, the more milk she would give; but a physician in Detroit described careful observations on the feeding of mothers and declared that it was unnecessary to stuff a mother to enable her to breast-feed the baby. The second point is the longer nursing interval. Out in the West, babies are generally nursed on a four-hour schedule right after birth. A few babies do better on a three-hour schedule for a while, but the four-hour schedule is immediately taken up. It does better for the mother, as she can go out to social functions, and have a comfortable day with five feedings; she sleeps all night, and the whole family is contented.

DR. M. L. TURNER, Des Moines, Iowa: There are a number of reasons why the mother may not be able to nurse the baby. First of all, we should teach the mother how to live before the baby is born so that when the baby comes she does not need to change her diet. Neighbors should not be allowed to bring in delicacies and impair her appetite. Let the mother eat wholesome meals before as well as after the baby is born, and she does not need to stuff herself in order to have plenty of milk for the baby. Another important point in successful nursing is to have the baby put to the breast immediately after it is born. There is a substance in the mother's breast which is essential for the child. A dram of colostrum is worth a quart of water at this period. And I endorse Dr. Mulherin's suggestion for emptying the breasts. I insist that the mother nurse both breasts every time she nurses the baby. Every mother can nurse her baby. I have been able to establish the milk in the breasts of twenty-five mothers during the last two years from two to eight weeks after they have weaned their babies, and in one case after three months. One mother was 39 when her first baby was born. The baby had been weaned for eight weeks and was put back on the breast. She was able to nurse the baby for a year. I think, as Dr. McCleave says, that we are confused in the terms complemental and supplemental feeding. I

agree to the term "substitute feeding." I do not agree with Dr. Abt that after the fourth month we should give the baby a substitute feeding. Any time the breasts are not stimulated regularly, they fail to secrete. The mother can nurse the baby every four hours, and can then go out and have her afternoon tea and have enough milk to keep the baby nursing.

DR. L. R. DEBUYS, New Orleans: This paper emphasizes the necessity of the proper care of the infant immediately after birth. It would have been interesting if he had told us what advice had been given these mothers as to the care of their babies. Were they delivered by obstetricians or otherwise, and who gave the advice which they followed? Pediatricians should fight for the proper care of the baby immediately after it is born, and this advice should be given by those adequately prepared to give it.

DR. ADA E. SCHWEITZER, Indianapolis: We have been engaged in the study of the feeding of 5,336 children aged from 8 weeks to 6 years. We compared relative height and weight of Indiana children. Fourteen in every hundred were below the standard weight for height. An inquiry into the feeding of these children showed that 65 per cent. of the children of the underweight class had not been breast-fed; only 11 per cent. of the underweight class had been breast-fed exclusively in early life. The prevalence of breast feeding in infancy is shown by the fact that about 72 per cent. of the children studied had been breast-fed all the way from six weeks to six months. This, we felt, was a fairly good showing, as these studies were made outside the larger towns, largely in the rural districts. The percentage of breast feeding in any community seemed to depend on the advice given by the physician to the mother concerning its advisability. In addition to the reasons given by the author, early weaning among these Indiana mothers often was resorted to because the baby cried a great deal, or because he did not seem to be satisfied. We found that among infants who were breast-fed exclusively and among the infants on a supplemental feeding, a high percentage were up to standard height and weight. We also found that babies fed proprietary foods furnished the highest percentage of underweights. Of the older children those on a varied diet were up to standard, but in the country districts, where the children were given a diet of meat and potatoes with not enough of leafy vegetables and not enough milk, the percentage of underweights was higher. Although we were unable to check up the condition of the children as often as was desirable, we felt that this was an interesting study. We did show to the people of Indiana that the highest percentage of poorly nourished children occurred in the group who were not properly fed early in life.

DR. G. A. WARREN, Black Rock, Ark.: Eleven years ago Dr. Jacobi said that a most significant emblem of one of the artificial foods was the picture of an angel, because if you feed babies this food, they would soon become angels. He emphasized the value of giving cow's milk, if the mother's milk was not sufficient. We should all be impressed with the importance of breast feeding. I think that a child should be nursed until it is 18 months of age. There ought to be two periods for weaning a child. A child ought not to be weaned during the hot months without some of the reasons given by the author. I do not believe that nature intended that a child should be put on foods until it has at least sixteen teeth, and that is usually in the second year.

DR. EDGAR A. HINES, Seneca, S. C.: The keynote of the proposition, as I see it, is how to reach the medical profession of America. Under the inspiration of the vice chairman of this section, we are organizing state pediatric societies in the Southern states. Ten of our states have been so organized. One of the main objects of the organization is to give the profession just such information as has been brought out by the author and by those who have discussed his paper. At the next meeting of the South Carolina Medical Association the chief place on the program will be given to the discussion of breast feeding, and that may be done throughout these ten Southern states. I believe that within two years the entire sixteen Southern states will be organized in that way.

DR. CLIFFORD G. GRULEE, Chicago: The paper gives a very good outlook on the reasons which we may expect for weaning children. That is very important, and it shows very clearly that in the vast majority of cases the reasons for weaning children are entirely inadequate. It calls attention to the fact that the new-born period is very important. In my opinion the introduction of breast feeding in the new-born is the crux of the situation. If one does not get these babies to nurse during the first few weeks of life, one does not get them to nurse at all. It usually rests with the obstetrician whether the baby nurses or not. A lot has been said about the mother nursing the child, and nothing was said about the child nursing the mother. I have had charge of the babies in the maternity wards of a general hospital, and I find that the baby's tendency to sleep is the one factor that takes it away from the feeding. If we keep them awake and at the breast and force them to nurse, they will do well. If these babies nurse a few minutes they often go to sleep. They have to be stimulated and kept awake and made to nurse.

DR. GEORGE E. BAXTER, Chicago: It is important to emphasize the most common conditions which we meet. For example, it has been my habit to ask the question of every mother what reason she had for weaning the baby. Our percentages run much higher than Dr. Dietrich's for the following two or three reasons for weaning, which are found in his tables: "insufficient milk," "trouble with the stools," "advice of physician or nurse." I would like to emphasize one point which Dr. Abt stressed, and that is the condition of the stools. We would have far more babies nursing at the breast if the physician, nurse and mother never looked at the stools. A green color, a few curds, a little mucus in the breast-fed baby stool has been misinterpreted, and consequently innumerable infants have been deprived of their best and safest food. All pediatricians know this, but very few of them stress the importance to obstetrician and general practitioner. Another factor is the time of nursing. Dr. Grulee has mentioned the fact that these babies go to sleep on the breast. We should be careful that the nurse and mother understand that nursing at the breast means sucking at the breast. We must determine whether the baby is getting any milk. Weighing before and after nursing is a good thing for a few times only. It is irksome to the mother and baby to keep it up as a daily and regular habit at each nursing period, and no baby will get the same amount from each breast at each nursing period. By careful observation, the mother will soon learn whether the baby is actually sucking and swallowing or sleeping or nibbling, using the breast nipple only as a pacifier. I firmly believe that the usual time which is practiced in all hospitals of having the baby nurse for twenty minutes is fundamentally wrong, because no two infants will get the same amount of milk from the breasts in the same given length of time. We should pay more attention to the way the baby sucks and swallows. Teach the mother and nurse to observe whether the baby is actually sucking and swallowing. The old and less elegant word "suck" expresses far more accurately the action of the baby at the breast than "nursing." Instead of having the baby suck ten minutes on one breast and ten minutes on the other, we should have the baby suck until he gets all he can or wants, for these infants have an intuitive sense, if you please, of how much they need. I am getting to the point at which I advise mothers to turn the clocks to the wall when they are suckling their babies.

DR. HENRY DIETRICH, Los Angeles: I think that Dr. McCleave's idea in regard to the use of the term "supplemental" feeding is an excellent one, and that by using the term "substitute" feeding we may prevent some mothers from starting the babies on the road to weaning. We can learn a great deal from the dairyman. If we spend some time with the dairyman, we will get some important points that will help us in the better understanding of the establishment of breast milk. In answer to Dr. DeBuys' question: some of these children were under the care of expert obstetricians; a great many were under the care of general practitioners. One infant that was given no breast milk was the daughter of a patient who found it necessary to have an obstetrician

come from New York to Los Angeles to confine her and also to have her take the baby from the breast. Both Dr. DeBuys and Dr. Grulee are correct in regard to the new-born period. I agree that that is the time when these babies need the most attention. There are many young infants who from the time they are born are left to the care of the nurse. The mother is stuffed with whatever the nurse gives her, and if the mother does not have a plentiful supply by the fourth day, the baby is put on the bottle. And this holds true in as large a city as Los Angeles, where in some instances the physician never saw the baby from the time it was born until the mother left the hospital.

POLITICS AND THE HEALTH OFFICER *

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There can be no question that public health service as a career does not offer sufficient attraction to many of the best type of technically trained men, whether they are physicians, sanitary engineers or statisticians, to induce them to make it their life work. Although, in recent years, such men are entering the service in greater numbers than formerly, the need for thoroughly competent officials by states, counties and cities is far greater than the supply, and, it may be added, greater than the demand.

The reasons for this unpopularity of public health service are:

1. Lack of knowledge on the part of many graduates of the professional schools as to the character of the work, the opportunities afforded for developing it and the qualifications, technical and personal, which are essential to success. In order to furnish this information, it would seem desirable to introduce somewhere in the curriculum of medical and allied professional schools, including schools of nursing, a course of lectures, delivered by an experienced and successful health official, which would serve to impart exact information as to the opportunities offered by public health service, and to bring out facts as to the past, present and probable future of the work; its advantages as well as its disadvantages compared with private practice. It is very certain that the entrance into this field by persons who have little or no knowledge as to what is before them must, in many cases, inevitably lead to disappointment and unrealized hopes, and that many potentially able health officers are lost to the service because they have not been informed as to its opportunities and advantages.

2. Inadequacy of compensation. It may be stated, as a general rule, that salaried public service of an administrative and technical nature, in this country, if it be honestly and efficiently performed, is not adequately compensated. Public health service is by no means the least conspicuous example. It is hardly to be expected that communities, even the most populous and wealthy, will be willing and able to pay salaries to health officials which will compare with the income which many technically trained professional men command in private practice and in some industrial corporations. But that the salaries paid should represent a reasonable return on the capital invested in money and the time devoted to preparation, and should afford a decent living, with something saved, to those who have no other source of income, is beyond dispute.

The full-time health official, and even he who honestly devotes part time to the duties of his office, becomes, year by year, less able to earn a reasonable living in private practice. Health service is, for many reasons, incompatible with private practice and is usually destructive of the desire to enter or return to it; so that it not infrequently happens that, after years of such service, the health official, having relinquished or been relieved of his office for one reason or another, finds himself without means of support, and a seeker for any work which will enable him to live. The lawyer and business man who temporarily neglect their private work for public office have something to fall back on. Indeed, it not infrequently happens that their professional and business returns are enhanced rather than diminished; for there is no incompatibility between private and public work of this character, such as exists between official and private medical work. This is a matter which state, city and county officials do not realize, and will not realize until they are taught the value to the community of efficient health work, and that such work must be reasonably paid for or dispensed with. While the pay of health officials has notably improved during the last few years, it is by no means generally adequate, and, until it becomes so, many of the best men cannot afford to enter the field of public health.

3. Uncertainty as to tenure of office. Quite as important if not more so than the foregoing as a deterrent to entrance on public health work is the uncertainty of tenure of office. Many qualified men, especially those with some private means, would, notwithstanding the meager financial returns, enter into public health service, on account of their liking for it, were it not for the fact that they have little or no assurance that even if they perform their duties satisfactorily and obtain results, they may not be thrown out of office, for political or personal reasons, and with no opportunity to protest.

The majority of adult Americans of intelligence have political opinions and more or less strong party affiliations, and it would be unfortunate for the country if such were not the case. But there is a class of politicians which exists in all parts of the country which could be well dispensed with; namely, those who are willing to sacrifice the welfare of a community to an assumed political advantage, in order to satisfy a personal or political grudge or to bestow political favors. Health officers, through no fault of their own, all too often fall victims to the activities of this shortsighted, mistaken policy; and the community is thereby deprived of valuable and faithful service.

It will be conceded that the politics of a health official should be of no more concern to a community than the politics of the family physician to an individual. There is no defense for partisan interference in the work of an official who is devoting his service to the health and lives of the people of a community, except ignorance of the value and importance of such service; and it is this ignorance, by which the health officer suffers, for which he is very often himself largely responsible, in that he has failed to impress on the people of the community, including those with political power, the value of services rendered. In other words, he is regarded by the latter as any other office holder, and is subject to the same rules of the political game. A

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health officer who has accomplished such results as to enlist the support and backing of the general public in his community is fairly secure in his position. The politician who brings about the removal of such an officer, replacing him by an incompetent, is liable to receive from the people, at the first opportunity, his justly merited reward. There is no greater asset in any administration than well-conducted health work; and no other work comes nearer to the heart of the people or so generally enlists public cooperation. This fact is being recognized more and more clearly by governors, mayors, commissioners and minor administrative officials. If it be granted that health officials should be free from political interference, it is equally true that they themselves should perform their duties without regard to political or personal influence, and that they should on no account take part or use the prestige of their office in any partisan campaign. Wherever their sympathy lies, in their official acts they should remain absolutely neutral. The health officer who openly or privately works for the advancement of one political party or another is entitled to no sympathy if, as a result, he loses his office. He has played a game, lost it, and should pay—on demand.

Health officials should work in as close harmony as possible with the administration, and cooperate in making it a success. They should remember that the technical knowledge pertaining to public health work and its importance to the community is not often possessed by coordinate lay officials; and when differences of opinions arise as to policy relating to health administration, they should make every endeavor to render clear their position and reasons for acts, the value and desirability of which are being questioned, often through lack of understanding. Tactlessness, arrogance and too great readiness to attribute evil motives to those with whom officially and unofficially they come into contact are just as certain indications of unfitness for public health service as subservience and eagerness to curry favor at the sacrifice of plain duty. However technically qualified by education and experience, the health officer, if constantly at odds with the administration, will be able to accomplish little or nothing, and his services to the community will be of very little value. If this lack of amicable relationship is due purely to political or personal motives on the part of members of the administration and to no fault of his own, his work having met the approval of the people of the community, the health officer may, in most cases, rely on public support, which is exceedingly difficult to overcome. If, on the other hand, it is a question of incompatibility of temperament, or the health officer is suspected or known to be playing politics, it is better for him and the community that he should resign.

What may be done to make more secure the tenure of office of efficient health officers? Civil service, while theoretically valuable for this purpose, has not, in effect, proved much of a deterrent against unjust removal from office. The state department of health of New York through the public health council, and in cooperation with the state legislature and conference of mayors, has taken certain steps which should prove of value in remedying this evil; first, by an act of the public health council, July 6, 1915, in establishing qualifications for local health officers, except those of the first and second class cities. Under this regulation, candidates for health officerships are obliged to qualify themselves by taking a public health course outlined and supervised by the state department of health in cooperation with one of the medical schools of the state, or, in lieu of such course, to furnish to the council evidence of education and training in public health which shall represent an equivalent of the work required by the course. Although handicapped by the war and two great epidemics, up to the present time about 600 health officers out of 969 have either taken this course or otherwise qualified, and about 150 are now registered in it. This regulation has served to prevent the appointment of men who were not qualified to hold office, and to educate the appointing power in the various communities as to the necessity for choosing men with some training in public health, and not those, however respectable, who are simply medical practitioners and without knowledge of public health matters. In the majority of cases, it has rendered it difficult for such appointing power to displace the health officer whose qualifications had been approved.

In 1921, at the instance of the conference of mayors and the state department of health, a law was passed, permissive in character, by which second and third class cities may abolish boards of health, and empower the mayor or city commissioner to appoint the health officer, who, however, must be qualified under the regulations of the public health council. It makes the health officer responsible for the conduct of his office solely to the mayor or other appointive power, and not to an intermediary lay official, such as a public safety commissioner. The term of the health officer was fixed at four years, but he could be removed without specific charges. The latter provision obviously constituted a weakness in the law. This was remedied at the last session of the legislature, which made the health officer removable on charges only after a public hearing. A number of cities have accepted this law, and more contemplate doing so. Furthermore, the newer city charters include identical provisions. These two measures, I believe, should be regarded as a step in the right direction, but only a step. City and county health officers (certainly those who give full time to these positions) should have a life tenure of office, unless sooner removed for cause; and, until the salaries granted are more liberal than at present, some provision should be made for a pension after retirement.

It is quite obvious that causes for discontinuing the services of a health officer should include inability to achieve results after a reasonable period of trial; for I think it will be readily granted that, however well qualified a man may be in theory, when it comes to actual experience he may prove to be far from a success; and communities should not be powerless by law to rid themselves of a health officer of this kind.

It is perhaps too much to expect that in the near future adequately paid, well qualified, whole-time health officers, with a secure tenure of office, will be the rule rather than the rare exception. This state of affairs can be brought about by one means alone: general education of the public regarding the meaning and importance of efficient health administration.

ABSTRACT OF DISCUSSION

DR. A. T. MCCORMACK, Louisville, Ky.: There is not a statement in the paper with which I disagree, and that makes it extremely difficult to say much except in repetition. It has always seemed strange why after forty years the physicians of the United States have not realized the possibility of such an organization as will entitle them to such public confidence that the standards suggested in Dr. Nicoll's paper

would be accepted by the public and the profession today. It is impossible for the mayor to know a good health officer. He may appoint a good health officer. I do not mean he cannot do that because it has been done occasionally. It does not necessarily happen that he is a good health officer because he is the family physician or political supporter of the mayor; and too frequently health officers are appointed for that reason. If the appointments of health officers were made by law under the endorsement of the medical profession, which, after all, should be responsible for the public health of the state, with the provision that they must handle the financial affairs of the organization economically, the results would be better. That provides sufficient continuity to make the proposition attractive even though the remuneration is small, not because the health officer should not receive a greater remuneration but because he has such an opportunity for good service that he feels compensated out of proportion to the amount of money he receives.

DR. VICTOR C. VAUGHAN, Washington, D. C.: I agree with all that Dr. Nicoll has said. It has been my fortune to be in public health work for many years, and I think that, on the whole, Dr. Nicoll is right in advising the health worker to steer as far as possible from active participation in politics. In Michigan, where my health work has been done, I have generally been known as a Democrat, and at times have taken a rather prominent part in state conventions of this party. During this time, or at least during the greater part of it, the state has been overwhelmingly Republican. I do not believe that my political belief or my political affiliation has in any way interfered with my health work. My most successful work along health lines has been carried out in legislatures in which my party had but few representatives. Of course, a tactful man, and a health official must be tactful, will always be courteous, especially to his opponents. I do not attach as much opprobrium to the word "politician" as some persons do. The politician is the man who persuades his fellow citizens to vote this way or that; and, if he persuades them to do that which is for the benefit of the whole, I am quite sure that he is accomplishing a desirable work. In my opinion, epidemiology is not studied with deserved thoroughness in this country at this time. It seems to be a general opinion among medical men and nonmedical health workers that bacteriology and epidemiology are synonymous. This is far from being true. Epidemiology is the much broader term, the much older science, and the one about which I believe less is known now than was the case a hundred years or more ago. When pestilence was more frequent, the words "loimology" and "loimography" were in general use, both by the medical profession and by the learned laity. Loimology was defined in the old dictionaries as the sum of human knowledge concerning pestilence, and the epidemiology of many diseases was quite extensively known long before the science of bacteriology came into existence.

DR. J. A. HAYNE, Columbia, S. C.: In South Carolina we embody most of the recommendations that have been laid down in the papers read today. When many of the states of the Union were wildernesses, the state of South Carolina made its medical profession the state board of health of South Carolina, and made it so by law. To get the best out of the medical profession in other states, it should be made the state board of health. Then there will be an ideal board of health. The state board of health of South Carolina has survived since 1879. This has been due to the intelligence of her health officers.

DR. MATTHIAS NICOLL, JR., Albany, N. Y.: I trust that no one will conclude from what I have said that we in New York state are wholly lacking in political judgment. I do insist, however, that conditions are different with us than in the state from which Dr. Vaughan comes, where one party is always in power, while in New York state there is a change in administration every few years. I would not give a penny for the health official who is not a politician in the sense of using political judgment in putting his own work across. If he cannot do that he is lacking as an administrator. Dr. Vaughan, a Democrat, was a health officer in a Republican state, and no Democrat or Republican dared to remove him; but I contend that it is unnecessary and dangerous for a health official to mix in partisan politics. He should confine his political activities to the conduct of his own office; in other words, attend strictly to his own business. By so doing, and always provided his work meets the approval of the general public, he will usually be safe from political interference. If, on the other hand, he uses his office for partisan purposes he will suffer the inevitable consequences sooner or later and have only himself to blame.

CONTRIBUTION OF STUDENT HEALTH SERVICES TO PUBLIC HEALTH *

J. HOWARD BEARD, M.D.
URBANA, ILL.

A health service is neither an institution of philanthropy nor an organization for the promotion of paternalism. It strives to cooperate, not to compete, with the medical profession. It augments rather than decreases the practice of local physicians. It has nothing to do with either compulsory health insurance or contract practice.

It functions solely in the interest of sound economy by keeping the maximum number of students in the classroom and by insuring the investment in education by teaching elementary knowledge of the human machine, which each student must handle for the remainder of his life. It endeavors to keep the normal fit; to restore the ill quickly to health.

Health, as defined by it, is not merely the absence of disease, but the sustained striving for physical, mental, and moral perfection—constructive, dynamic living in the best environment that modern science is capable of producing. Its purpose is to bring to the student, and through him to his community, the principles of hygiene and sanitation, as they pertain to him, to his home and to his vocation.

Instruction to produce the necessary education—to promote this essential cooperation in making sanitary improvement more nearly commensurate with sanitary knowledge—must present a demonstration so clearly as to make the proper deduction inevitable. Periodic physical examinations, personal conferences, physical education, sanitary inspection and didactic instruction offer this opportunity for a student health service to make a distinct contribution to public health.

PHYSICAL EXAMINATIONS

A thorough physical examination benefits the student, the community and the medical profession. It warns of dangerous conditions of which the student may not have been aware. Persistent albuminurias, unsuspected heart lesions and unrecognized hernias are frequently found. Their discovery and treatment mean a longer period of activity in those who, by special training and experience, are to be of great value to society. Students with these abnormalities or with previously unrecognized astigmatism need little instruction or encouragement to become advocates of medical supervision of school children.

The necessity of compulsory physical examination at registration is not always understood until a large percentage of those examined have been called for reexamination and advice concerning errors of refrac-

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

tion, carious teeth, flat feet, curvature of the spine, incorrect posture or other defects. Then the significance of the requirement becomes apparent, and students freely express their appreciation of the opportunity they have been given to ascertain their physical condition. Certification of physical health, as a prerequisite to entering athletics, and prescriptions for corrective gymnastics further emphasize the importance of physical examination. The establishment of a sympathetic attitude in the mind of the laity toward health measures is of the utmost importance, if public health is to attain its greatest advancement. While it is usually difficult to make those who think they are well show great interest in "how to keep well," the sick and defective are easily interested in the fundamental principles of corrective and preventive medicine.

Unhappily, certain students must learn that their defects make it necessary for them to revise their plans as to courses to be pursued in the classroom and in physical education. Their misfortune will, to a considerable degree, be compensated if they carry over into life an appreciation of the relation of physical and mental adaptation to successful careers and to efficiency in occupation.

In physical examinations, the students are required to undergo anthropometric measurements, and the observation of a dentist, an aurist, an oculist, a laryngologist, a clinician and a surgeon. They must also submit a specimen for urinalysis. A number have revealed to them, for the first time, the meaning of specialization in medicine, a discovery of value both to medical practice and to public health.

The findings of the physical examinations of a large number of recent graduates of public schools serve as an index of the efficiency of the departments of physical education and of medical supervision. If the health services of institutions of higher learning will adopt a "follow-back" as well as a "follow-up" system in dealing with defects of registrants, they will be able to cooperate with the schools from which the students come, to mutual advantage. The examination of many young men and women will be of great help in making generalizations of public health value. The facts obtained in such instances and the careful following of the graduates should lead to interesting observations concerning the cause of the so-called degenerative diseases and the influence of occupation and habits in relation to them.

Physical examinations and the conferences following them afford opportunities to release minds from the thraldom of imaginary ailments, from the evil of misdirected sympathy and from the introspection and depression created by charlatanism and quackery. Advice, encouragement and mental prophylaxis lead to the establishment of the proper attitude of mind, which is essential to the prevention of subsequent burdens on family and society.

CONFERENCES

A health service encourages the student to seek information whenever he thinks his health requires it. While this policy brings in trifling injuries and slight ailments, it leads to the discovery of potential or incipient conditions that need attention. The community is better protected against communicable disease, and the student avoids illness and infected wounds.

Conferences afford an opportunity to view the stress and strain of modern education on the central nervous system under varying conditions. They reveal the handicap of bad habits of study and of the wrong types of recreation. They bring to the surface the blight of worry, the far-reaching effects of unhappiness and depressing environment on cerebral efficiency. They present a chance to demonstrate the potency of psychotherapy, the benefits to be derived from the proper mixture of work, play, and social intercourse. They emphasize the wholesomeness of optimism.

Frequently these conferences deal with subjects not immediately affecting the student's health. He may ask for some data in connection with a hospital in which his father is interested. He may want plans for a sanitary outhouse for his country home; references to some form of public health work on which he is writing a long theme, or a list of text books suitable for the high school students to whom he will teach hygiene next year.

Former students frequently write letters or call for information concerning some phase of hygiene and sanitation in which they are particularly interested. On the day this article was written, three letters arrived, one from a graduate in journalism, specializing in advertising, who requests data concerning tooth-paste. He wishes references to aid in adequately describing his product. A second asks for methods of destroying mosquitoes; while the third wishes to borrow a set of slides on "school sanitation."

In many of these conferences, questions often arise which involve medical tradition or touch on problems of medical practice. They offer an opportunity to show the future community leaders that medicine is rapidly changing from an art to a science, based particularly on chemistry, physics and biology. Students must learn that results in medicine are not haphazard, but that cause and effect follow in logical sequence, as they do in experiments in the laboratory. There are still too many intelligent people who think medicine is a medley of tradition, mystery, long-sounding terms and personal opinions. In removing this false conception from the public mind, modern medicine has much to gain; nothing to lose.

EDUCATION

The great contribution of a health service to public health is the education of the student to appreciate the importance of hygiene and sanitation to himself and to his community. The mere introduction of an elementary course into the required curriculum of an institution of higher learning is not without significance to preventive medicine. Greater emphasis must be placed on the fact that dissemination of knowledge, essential to self-preservation, is the first duty of education.

What the universities and colleges should do in the teaching of hygiene depends largely on the amount and nature of the instruction given in the grade and high schools from which their students come. For the present, the equivalent of three hours a week for one semester would not indicate an undue emphasis on hygiene. The time might well be divided, two thirds to general, and one third to vocational hygiene; the former to be required of all students during their first semester after matriculation, and the latter to be taught later, in connection with their professional training. The instruction should be both didactic and practical, and ample opportunity should be given for the students to confer with their instructors and with members of the health service staff.

Members of the staff of the health service, in their daily contact with students, have an excellent oppor-

tunity to give practical significance to the didactic and laboratory instruction in courses allied to medicine. The student finds new interest in zoology or entomology when the relation of protozoa to dysentery or of insects to disease is discussed during a consultation for enteritis or malaria. The overlapping of the problems of sociology and medicine are particularly attractive to the man or woman studying social evolution, charities, population or criminology. The senior in the engineering school will exchange information with the sanitarian concerning the problems of Panama, the Rand or the Hudson Tunnel, with the keenest interest and to mutual benefit. Even the tyro in chemistry, wrestling with the mysteries of affinity, is not immune to a simple statement of the principles of chemotherapy.

The student's familiarity with the work of a health service has a high educational value. Members of its staff should see that the student learns that the waiters, dish-washers, cooks, dairymen and other food handlers employed by the university are examined physically, in order to exclude those with communicable diseases from handling food; and that they are vaccinated against smallpox and inoculated for typhoid fever, in order to protect the patrons of cafeterias from disease. In institutions in which a considerable amount of student help is used, this lesson becomes very practical. The requirements of the student officers' reserve corps and the advice of heads of departments of bacteriology and sanitary engineering that their students be vaccinated and inoculated further emphasize the importance of immunization.

A case of diphtheria properly handled in a fraternity house will do more to demonstrate the value of antitoxin, the use of the Schick test, the danger from carriers and the necessity for isolation than several hours of didactic instruction. It presents a demonstration whose significance remains throughout life. It creates a respect for quarantine and promotes a spirit of cooperation in the prevention of disease.

A health service greatly aids in the promotion of public welfare by the cultivation of an appreciative attitude toward hospitalization. Many of the most intelligent people have an unreasonable dread of hospitals, and use their facilities for diagnosis and treatment only as a last resort. When students are encouraged to go to the infirmary early and conditions are such that they cannot very well be cared for at their lodging houses when sick, hospital treatment is expected. It will mean much to public health to have our college graduates understand that they can obtain better care for themselves and for their families in a well-conducted hospital than at home. What will this mean to maternal and infant welfare, to diagnosis, to treatment and to the equipment and maintenance of hospitals?

SANITATION

Environment is the best laboratory for instruction in sanitation. By cooperation of the offices of the supervising architect, the superintendent of buildings and grounds and the health service, the necessary apparatus is provided for effective teaching. The care of the campus, the style of buildings and variation in equipment, with their age, their methods of ventilation, heating and temperature control, means for provision and determination of humidity, lighting system, types of drinking fountains, sanitary plumbing, regulations for the care of the swimming pool, etc., are mute instructors, demonstrating the present conception of sanitation, and its evolution during the last few decades.

If the school does not have dormitories, or they are so restricted as to require a large number of students to live in private lodging houses and to eat at such places as may be available, conditions arise that make a sanitary survey imperative. Lunch counters spring up in unexpected places and pie-wagons vie with one another in seeking strategic locations with reference to student traffic. As many students are compelled to live as economically as possible, they must patronize the cheaper places. Proprietors of lodging and eating houses would show a lack of business ability if they did not give some attention to their financial returns.

This combination of circumstances converts the student district into a community health unit, with all of its problems in the prevention of disease and the maintenance of health. Here the health service operates, educating, creating public sentiment, encouraging and urging a demand for sanitary improvement. It cooperates with the local boards of health, with public-spirited citizens and with the students, in helping to bring about the living conditions that make the college community one of the most attractive in which to live. To interest a number of intelligent men and women in the sanitary improvement of their surroundings is to prepare them for better citizenship by their enlistment in the advancement of public health.

Today, departments of health must teach by lectures, exhibits, pamphlets and propaganda, in order to produce the necessary education of the laity to overcome the resistance of ignorance and of short-sighted cupidity to the widest application of well-established methods to the promotion of public health. They are compelled to give instruction that should be a part of the required courses of schools and colleges. Unless the acorn of sanitation is planted in the schools, it will be many years before the oak can be used by departments of health in the erection of magnificent edifices of community and national health, commensurate with scientific knowledge. In the sowing of the seed, a health service offers helpful cooperation with all organizations interested in the advancement of public health.

A student health service and a school of hygiene are complements. The first creates public sentiment and obtains moral and financial support for public health work. The second trains experts for leadership and research. The former strives to permeate the masses with elementary science as used in the promotion of health; the latter to produce torch-bearers and pioneers in preventive medicine.

Is it too utopian to believe that the united efforts of the graduates of our institutions of higher learning, the staffs of departments of health, the faculties of the schools of hygiene, and the medical profession are able to bring into existence those living conditions which are the goal of preventive medicine—the essence of applied Christianity?

ABSTRACT OF DISCUSSION

DR. JOHN SUNDWALL, Ann Arbor, Mich.: The third who failed to pass the normal tests for physical fitness as revealed by the draft examinations, the 80 per cent. of our school-children who have defects that will make it difficult for them to make the proper social adjustments later on in life, the appalling number that must go onto the human scrap heap during that adult period of life when one should be enjoying to the maximum life and its various activities, and when one should be of the greatest economic and social value—these are responsible, in the very largest measure, for the tendency

of public health interests and activities to concentrate more and more on personal fitness or physical efficiency as one of its chief objectives. No other institution offers better opportunities to develop this newer and broader conception of public health interests, health efficiency, than does the university. Each student must be instilled with a profound appreciation of what physical efficiency means to his success and happiness and his value to society. So saturated must the student become with the ideals and standards of health efficiency that he will feel that it is his moral, social and civil obligation to achieve and maintain a sound, active, vigorous, dextrous and harmoniously developed body. In order to reach this objective—an appreciation of, and a desire for positive health on the part of the student—health efficiency should be made one of the basic divisions of university work. The administrative officers and the faculty must become permeated with these ideals and standards. The chief health officer of the university should sit in all the councils of the university's administration. He should be given similar authority and dignity to that now ascribed to deans. Furthermore, the university should require of all its entrants evidences of health and physical efficiency. The thoroughgoing physical examination should be required of all entering students prior to registration. These should be repeated annually. Personal fitness and efficiency should be made a requirement for participation in the active life of the university. The benefits, honors and awards of the university should be conditioned by the health and physical efficiency of the recipients. Students should not be graduated who, because of ignorance and neglect, have allowed their body machines to "run down." Assuredly the state is being cheated when the university underwrites physical defectives as capable of serving and directing society. Let us develop a university type of physique. It is precisely along these lines that the university can serve the public health movement best. The university has the opportunity and possesses the facilities to attain these physical efficiency ideals. Students later on in life become the leaders in their respective communities. Thus these ideals and standards of health will radiate out into society.

DR. J. HOWARD BEARD, Urbana, Ill.: I would like to emphasize what Dr. Sundwall has said, and to point out that a health service is an economic necessity.

MALARIA CONTROL OPERATIONS IN RELATION TO THE ULTIMATE SUPPRESSION OF THE DISEASE *

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In his book on "The Prevention of Malaria," Sir Ronald Ross [1] shows by elaborate mathematical calculations, and in quite a convincing way, that sufficient reduction in the anopheline density in a given area would ultimately result in the complete disappearance of malaria from the area without the reduction necessarily being carried to total elimination of anopheles. In other words, it is not necessary to secure 100 per cent. of anopheline control to secure 100 per cent. of control of transmission of malaria. This is based on the small proportion of the total number of anophelines produced, which chance to live long enough, bite favorable gamete carriers and later bite other susceptible individuals. In a large area, especially one not densely inhabited, there must be many thousands of anophelines produced, on an average, to one that actually transmits malaria. He argues, therefore, that, if the anopheline density is reduced to below this theoretical point, malaria will ultimately disappear. On the other hand, reduction of the number of carriers by curing the infection would not eliminate malaria entirely unless every infected person in the locality was disinfected and no others came in; provided, of course, that the anopheline density remained the same.

This is based on the assumption (which I am bound to think is correct) that the anopheline density and malaria prevalence would be evenly distributed and that the reduction resulting from antimosquito operations or from treating the carriers would also be equally distributed over the area under consideration. As a matter of fact, it seems to me that, in practice, the very opposite would probably be the case. There is no reasonable probability that either antimosquito work or cure of carriers will be evenly effective over any very large area. In any such large area, there would almost certainly be spots that had been overlooked or were insufficiently sanitated, where prolific breeding would continue, although breeding over the area generally had been reduced to below the necessary extent to permit transmission. If such less well controlled spots were favorably located with reference to malaria carriers and susceptible persons, transmission would continue there and malaria would continue to be present indefinitely. This would be the case, however effectively the other part of the area was controlled.

The same thing is true with regard to control by curing carriers. Although all carriers in a small area, including a small group of people, may be cured of their infection, so that no further transmission will take place, no such thing can be hoped for when large areas, such as whole counties or states, are considered. There will be some carriers not discovered; others may not be disinfected by the treatment taken, and others may refuse treatment. If such carriers are favorably located for transmission with regard to anopheles breeding places and to other persons, transmission will occur and malaria will not disappear. So far as I know, no intensive quinin control operation has been so successful in any large area as to eliminate all the carriers. Therefore malaria has not been completely suppressed in this way; nor do I believe that it can be. Neither do I know of any instance in which the disease has been completely suppressed in large areas by mosquito control operations carried out for the purpose of malaria control.

However, there are many instances in which developments leading to mosquito control, often more or less incidentally, have led to total suppression of malaria over quite large areas. I refer especially to the disappearance of malaria in this country during the past fifty or 100 years from large areas in New York, Pennsylvania, Ohio, Michigan, Illinois, Missouri and other states. This did not result from any intensive antimosquito operations, nor from screening. It resulted chiefly from the mosquito control that came from the clearing, drainage and other activities incidental to the march of civilization, and the development of the country for agricultural and industrial purposes. Much reduction had occurred, and, in fact, the disease had disappeared from large areas before the mode of transmission was known and before wire screens were used to any considerable extent.

During later years, use of screens, no doubt, whether intended for malaria control only or for other useful purposes as well, has hastened malaria elimination from

* From the Tulane University of Louisiana School of Medicine.
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1. Ross, Ronald: The Prevention of Malaria, New York, E. P. Dutton & Company, 1910.

the areas in which these natural developments were already bringing it about. Every transmission prevented by screens, which would otherwise occur, reduces the disease in the area to that extent and tends to hasten the time when there will be no more malaria.

No doubt cure of infected persons with quinin has also favored or hastened elimination of the disease from some of these regions by the developments incident to civilization and settlement of the country. Every person cured of his infection means just that much reduction of the chance of transmission.

While both of these things, screening or other antimosquito measures and the cure of infected persons, have contributed to the final suppression of malaria in some of these heavily infected regions, they have been contributing or, I may say, hastening factors only. The real cause has been development incident to civilization and settlement. Without this, malaria would not have disappeared.

What has occurred in this regard in England and in many European countries, and in these regions referred to in this country, is in progress over practically the entire malarious area in the United States. As the country is developed for agricultural and other industrial purposes, the prevalence of malaria slowly but surely declines. If we can look forward to a high state of development of the entire country, so also can we look forward to suppression of malaria, however much or little intensive malaria control work is done. At the present rate, it will be a long time until malaria has entirely disappeared. It will disappear, however, depending on whether, or when, settlement and development goes forward to the necessary extent.

The chief operations that bring about suppression of malaria are drainage and filling and clearing of the forests; not such as is done for the purpose of controlling malaria, but the much larger operations for settlement and development. The only permanent part of our present intensive malaria control operations is the permanent drainage and filling operations.

Since suppression of malaria inevitably results from the slow march of civilization and development, health agencies are interested chiefly in promoting such activities as will favor and hasten this result, especially those more or less temporary measures that lessen the prevalence of the disease during the period of more permanent development. This includes both antimosquito work and the proper treatment of infected persons with quinin. Each is useful, and they should generally go hand in hand. There are few instances in which antimosquito work would not be more effective in less time if combined with cure of the carriers. There are also few instances in which quinin control activities would not yield better results if combined with more or less mosquito control. The question is which is the more important and what proportion of attention should be given to each.

When considered from the standpoint of control of malaria in small areas, mosquito control has several decided advantages. The sanitation necessary tends to control other diseases and nuisances, while quinin does not do so.

When we compare the two measures from the broad standpoint of reaching the real malaria problem of this country, I believe that we must look to quinin as a most important factor. However much more desirable mosquito control may be, and however effective it may be in small areas, it must be practiced on a much larger scale than it has been in the past if it is really to effect the malaria prevalence over the whole country to any considerable extent.

Whether intensive mosquito control operations can ever have much influence on the big malaria problem of this country depends largely on the area that it is possible to reach in this way, compared with the area over which malaria prevails. Cost in money and man power and supervision or direction is a large item. In fact, this is one of the limiting factors. However certain the results might be, if the necessary resources cannot be obtained, the method cannot be applied.

Numerous demonstrations of malaria control by eliminating mosquitoes in small areas, chiefly towns and villages, have been made during recent years by the United States Public Health Service, the International Health Board and state boards of health. Many of these have yielded about as perfect results as could be asked for, constituting most convincing demonstrations of the effectiveness of sanitation.

I do not think the total area ever covered by intensive mosquito control work in this country, including the extracantonment zones during the war, would exceed 2,000 square miles (5,180 square kilometers). This is less than the area of three good sized counties. This is not more than one five-hundredth part of the total malaria infested area of the country. This emphasizes the fact that these operations have had little effect on the total malaria of the country, however completely malaria may have been controlled where they were conducted.

The cost of malaria control operations involving mosquito control by sanitation under experimental conditions or under such conditions as existed during the war does not serve as a suitable basis of cost. It costs much more under such conditions than when done under more favorable conditions.

A thing cannot be done unless the cost can be met. I refer to the cost not only in money, but also in other resources. I believe that those familiar with the most favorable of these successful operations must fail to see how the same operations can ever be applied to the entire malaria infected area of this country.

It must be recalled also that most of these operations have been carried out in towns and cities in which there is a more or less dense population and, by the way, where there is comparatively little malaria. The per capita cost, therefore, was comparatively low.

When we transfer mosquito control by similar intensive methods to the rural part of the country, where the malaria problem really exists, the per capita cost becomes much greater. In fact, it becomes so great that the extent to which such work can be done is certain to be limited. It cannot be done to an extent sufficient to affect seriously the total malaria prevalence.

The least expensive intensive mosquito control operations usually involve the expenditure of hundreds of dollars per square mile. An expenditure of even $100 a square mile would amount to an enormous sum if applied to the more than half a million square miles in the United States where malaria prevails. I do not question that it would be well-spent money. Nevertheless, it is money that would not otherwise be spent, and therefore represents new money.

Such antimosquito measures as screening homes also represents the expenditure of money that would otherwise not be spent. Do not misunderstand me. I most assuredly favor screening all homes where malaria prevails, as well as others. It would certainly cut

down the malaria rate tremendously; but it would be done at an enormous outlay of money for the purpose. It does not matter whether antimosquito measures are carried out as a part of an intensive plan involving considerable effort and perhaps expenditure of money by the health agency behind it, or whether it is done by the people themselves as a result of publicity and educational work; it still represents an enormous outlay of money for prevention of disease that would otherwise not be spent. It is true that it would still usually cost less than the disease it prevents.

Let us now look, from the same standpoint, at the control of malaria by cure of infected persons with proper quinin treatment, to see whether it is likely to be correspondingly expensive and, as a result, equally difficult of application to the whole malarious region of the country. People who have malaria may take proper quinin treatment to cure their infection, as a result of either intensive control operations which include this measure, or a general publicity resulting in making the supplies of standard quinin treatment available for those who need it, so that they will purchase it in place of other less effective remedies, or on the advice and directions of physicians who give their patients the proper treatment. In either case, I feel sure the cost of the necessary quinin would be less than the average cost of the other remedies that would be purchased at the same time if the standard quinin treatment were not used. If this is true, control by quinin involves only the expenditure for medicine of money that would be spent for other medicine. No new money is required.

Therefore, so far as cost is concerned, quinin is applicable to the whole malarious region of the country without cost, except for such publicity, propaganda or other activities as are necessary to get it done. In this respect, quinin control has a decided advantage over mosquito control, which involves outlay of so much money that would not otherwise be spent. For this reason, I believe quinin control is likely to prove a much greater factor in contributing to and hastening the suppression of malaria, in large areas or in the country as a whole, that inevitably results from development, than mosquito control operations undertaken for the purpose of controlling malaria or mosquitoes, so far as methods are known at the present time.

If this opinion is correct, among the most important activities of health agencies interested in malaria control are those that lead to the provision of proper quinin treatment for persons who have malaria. The rapidly increasing adoption of the standard quinin treatment by physicians and the growing use of it in place of the many less effective remedies offer much encouragement to workers in this field. If this continues, it is reasonable to expect that it will hasten and contribute to the ultimate suppression of the disease in large areas in this country.

SUMMARY

1. Malaria has disappeared from large areas in this country and in other parts of the world, chiefly as a result of development of the country, including drainage and clearing of the forest, incident to agricultural and other industrial pursuits.

2. Malaria prevalence is slowly but surely decreasing over practically all of this country, as a result of the steady march of civilization and settlement of the country.

3. This process may be aided and hastened by antimosquito measures or the proper use of quinin. Health agencies are interested in encouraging these measures.

4. The only part of our present malaria control activities that actually lead to ultimate suppression of the disease is permanent drainage and filling operations. All others are temporary and must be continued indefinitely, or the tendency will be toward a return to former conditions.

5. The cost of intensive antimosquito operations for malaria control is so great that they have not been applied to a sufficiently large part of the total malarious area of the country to effect seriously the total prevalence of the disease.

6. The cost of such malaria control as results from infected persons taking proper quinin treatment does not involve any cost over the amount that would be spent for other remedies. Therefore, it is applicable to the malaria problem of the country as a whole, and should be emphasized and encouraged by health agencies interested in malaria control.

ABSTRACT OF DISCUSSION

DR. L. D. FRICKS, Memphis, Tenn.: Dr. Bass is one of a very small group who, having realized the importance of malaria to the South and its blighting influence on agricultural and industrial development, have fought for its control year after year. I am in thorough accord with all that Dr. Bass has said as to the importance of adequate quinin treatment in controlling malaria. Certainly, malaria has been controlled in some localities by the use of quinin. In a county of 25,000 population heavily infected with malaria, the U. S. Public Health Service, following the methods employed by Dr. Bass in Mississippi, demonstrated that malaria could be enormously reduced by the general distribution of quinin in proper dosage. The U. S. Public Health Service has approved the standard quinin treatment for malaria, and recently has issued instructions that all patients in Public Health Service hospitals be given this treatment in preference to other methods of administering the drug, and advised that no malaria patient be discharged as cured immediately on the disappearance of active symptoms. It should not be forgotten, however, that the U. S. Public Health Service has also demonstrated in many places that malaria can be controlled by drainage; that it has been frequently controlled by top feeding minnows; by proper screening, or by oiling, and that over large areas it has even disappeared in the wake of agricultural development without effort or deliberate intent on the part of the people concerned. Knowing these facts, I cannot find myself in accord with any seeming reflection on any of the methods of malaria control just mentioned. They all have their limitations and their uses, but the malaria problem is so huge and local conditions are so varied that we must avail ourselves of all approved methods in stamping out this disease, relying more on one method in this community, more on another in that, and combining them all, if local conditions demand a combined attack. I feel that too much importance has been attached by the advocates of each method of malaria control to the direct results obtained by them in their investigations or demonstrations. This is only natural, of course; but to my mind the educational value of a successful demonstration in malaria control is of far greater importance than any immediate result that can accrue in the United States for some years to come. Education of the people and the fitting of malaria control into the permanent health program of the different state health departments are the big things to be done in the fight against malaria at the present time.

DR. M. P. RAVENEL, Columbia, Mo.: One point was not touched on, namely, permanence of results, though Dr. Bass did say that if the civilization of a country left it, as in the

case of the Roman Campagna, then malaria would return. As I see the matter, it may be put thus: Where drainage or filling is carried out, malaria is banished from that particular place for all time. When malaria is controlled by quinin, it may clear up, but it will always spread from the borders of the cleared up district toward the interior. The effect of quinin, in other words, is only temporary. Drainage, filling, etc., are permanent measures, and in the consideration of the relative costs of any procedure, these points must always be borne in mind.

DR. ISAAC D. RAWLINGS, Springfield, Ill.: There was a time when malaria was a very prevalent disease in northern and central Illinois. It is said that in those days quinin was set on the table at mealtime with almost the same regularity during the malaria season as was the sugar bowl or salt and pepper shaker. I recall vividly in Kansas in the early days how I and my brothers and sisters had to take "that bitter stuff" and how the good mother kept track of the "chill day" of the individual members of our family. It meant a bigger dose of quinin the night before and the morning of "chill day." As I recall the modus operandi of the "quininization" of those days, I feel sure that many of us discontinued treatment too soon, as relapses were frequent; but the very general use of the remedy in the various communities cannot be questioned. I cannot escape the conviction that tile drainage, at least in northern Illinois and other Northern states, had more to do with the elimination of malaria and the permanent solution of our malaria problem than did the very general use of quinin. Through the widespread educational propaganda advocated by Dr. Bass, people can undoubtedly be persuaded to use quinin to a considerable extent; but education is not and cannot be made a "cure all" in malaria campaigns, for results are slow in achievement, owing to the relative indifference of the individual both as to his personal welfare and the best interest of his neighbor, even if he is intelligent and all the facts have been presented in the most convincing manner. Education per se will not remedy the malaria situation, because the malaria carrier looms so large as an important factor and the difficulty of imparting the importance of the "cure to completion" to the average lay mind is too great to give promise of the necessary high percentage of efficiency. Many persons with all the facts presented discontinue treatment long before the eight weeks' prescribed course of treatment is completed. The method advocated by the author is one of the most important of several methods of control; but experience has abundantly shown in many areas that the former swamps which are today the most habitable and desirable places to live in were made so by a combination of thorough treatment; elimination of the malaria carrier; drainage or filling in of swamps and pools, where possible; substitution of larvicides for drainage or filling; removal of obstructing underbrush; use of "top minnows"; the screening of houses, and the control of water containers. We may regard the control of malaria as a short chain consisting of the three links: (1) infected persons, (2) anapholes mosquitoes (the connecting link) and (3) the noninfected person. An aggressive attack on any one of these links in time, if 99 per cent. effective, will solve the problem.

DR. S. W. WELCH, Montgomery, Ala.: The South has virtually admitted this malaria problem, and has gone about the task of getting the best methods possible to rid itself of the stigma of having a disease which is not common to other parts of the United States. The U. S. Public Health Service and the International Health Board have come to the assistance of the state boards of the South, and state-wide malaria campaigns are now on. The work is being carried on in a systematic way directed by Dr. Fricks, whose headquarters are at Memphis. All the Southern health officers and all the state boards of health have accepted the leadership of the U. S. Public Health Service in this work and we are actually eliminating malaria from the Southern states. In my own state, Alabama, since 1917 the number of deaths from malaria has fallen from 530 in 1917 to 231 in 1921. There will be fewer deaths this year than there were last year. This campaign is a vital organization, and we expect within ten years to show you the fairest country in the world entirely free from special health problems. Large drainage projects are being promoted all over the South. In 1916, top feeding minnows were put into the impounded waters of the Coosa River. The state board of health has aided in the distribution of them, until now there is not a little branch that is not filled with these little fish which feed on the mosquitoes.

DR. W. C. WOODWARD, Chicago: There is one aspect of malaria control we often overlook. We are staggered by the enormous cost of filling and draining mosquito breeding lands because we view the matter only in the light of an annual appropriation. We do not view such projects as we should, not from the standpoint of one year, or even of five or ten years, but from the standpoint, as Dr. Ravenel has pointed out, of all time. If you cannot spend a million dollars this year for filling and draining, possibly you can spend a million dollars in the course of twenty-five years, and in that way blot out malaria. There is another financial point often overlooked, and that is the actual money return that drainage and reclamation projects bring through increasing the value not only of the land drained and reclaimed but also of land for considerable distances in all directions around. It is only fair that those whose lands are benefited be assessed to the extent at least of the value to which their lands are enhanced by the improvement. If we deduct from the cost of the average reclamation project the value of the land reclaimed and the amount of the enhancement of values of nearby property, I am quite sure that the cost of permanent abatement of mosquito breeding nuisances will be very much lower than appears at the first glance.

DR. C. C. BASS, New Orleans: Dr. Fricks feels that perhaps the discussion is to some extent a reflection on the other methods of malaria control. That is just as far as could possibly be from my intention. He misunderstood me. There is nobody who appreciates more than I do the absolute control of malaria that can be accomplished by mosquito control measures. The point I wish to make is that the only method that is applicable to the malaria problem of the whole country at present is quinin control. It can be brought about by publicity without cost except for the comparatively small cost of the publicity required. On the other hand, any mosquito control undertaking for malaria control is too expensive to be applicable to a very large area. I quite agree with those who have entered into the discussion that the only permanent malaria control that we are getting is the result of permanent drainage and filling operations. Our temporary mosquito control and our quinin control are simply temporary measures which ultimately will lose their force if neglected or discontinued. However, the work that is being brought about by the natural development of the country, and this intensive work in permanent filling and drainage operations, will finally bring about the desired results. I wish also to point out that the disappearance of malaria from Illinois and Kansas, referred to by Dr. Rawlings, was aided by the use of quinin, which no doubt hastened the process. The purpose of my paper was to emphasize the idea that we ought further to encourage more extensive proper use of quinin and hasten the process of malaria reduction that is going on all over the country just as it has in these states. Dr. Welch pointed out that the malaria death rate in his own state had been reduced perhaps 50 per cent. in four or five years. That is probably largely due to the wide publicity that health officers and their assistants have given to the proper treatment of malaria. I believe that quinin is one of the most important contributing factors in the reduction of the death rate from malaria that has occurred in his state and in most of the other Southern states during the last few years.

Tobacco Angina Pectoris in Women.—A recent editorial in the *Journal des Praticiens* of Paris states, "We have recently seen two young women with angina pectoris for which tobacco was responsible. As the women were young and not syphilitic, they have apparently thrown off the disease."

THE MUTUAL INTEREST OF THE PROFESSION AND THE PUBLIC *

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The profession and the public have a large mutual interest which unites them in a common task and draws them toward a single objective. That interest consists of a surplusage of unnecessary, untreated and inadequately treated disease and impairment, which, in its totality, constitutes a waiting field of medical practice from two to five times greater than the present occupied field of medicine. The last statement constitutes the major premise of this paper, and is so related to what follows as to make its assimilation by the digestive or analytic process advisable before other related matters are considered. We turn, then, to a brief and rather general analysis of the unoccupied field of medicine.

Beginning with maternity, we find from 25 to 35 per cent., say an average of 30 per cent., of the births of this country, a total of approximately 750,000 births a year, unattended by physicians. These women pass through the valley of the shadow of death with no ray of the light of science to dispel its gloom, and with only the flickering candle of the midwife to guide them through their travail. Add to the labors without medical attendance the enormous unsupplied need for medical supervision during pregnancy; add again need of the puerperal state for medical care so inadequately supplied, and you have an uncared for field of maternity from two to five times the size of that which is cared for.

From infancy, we pass to childhood. Add absent, delayed and inadequate medical attention to the cases of acute diseases of early life—measles, whooping cough, scarlet fever, diphtheria, meningitis, early manifestations of tuberculosis, etc.—and add to that the needed treatment for the common defects of childhood (how significant the term), the 20 per cent. or 4,000,000 public school children of the country with defective vision; the 75 or 80 per cent. or 15,00,000 public school children whose mouths need treatment, in order to prevent subsequent digestive disturbances, rheumatism and cardiovascular damage, and the 5 per cent. or 1,000,000 public school children who need operations for tonsils or adenoids; and again consider the relative sizes of the occupied or unoccupied fields of medicine.

From childhood, we hasten on to adolescence, the age of sex awakening and social restraint of the sex impulse, the premarital state. Here we find susceptibility to, prevalence of and damage from venereal diseases greatest. With syphilis causing one tenth of all deaths, producing 20 per cent. of the inmates of our institutions for the insane (whose total population approximates the population of our universities), with gonorrhea as the chief cause of sterility and the principal contributor to the gynecologic wards of the hospitals, with its enormous drag on efficiency and industry—in combination, a group of diseases which in the height of the war took more men out of the line of battle than shot and shell and gas—and you have a field of medicine that largely sustains three specialties, gynecology, genito-urinary surgery and skin diseases, and, in addition, generously contributes to the general run of the practice of medicine. How much of this enormous field is occupied? From 16 to 20 per cent. of the venereal diseases are reported by physicians, and perhaps not more than twice that percentage, 30 or 40 per cent., are treated by the profession. Of the cases that are seen by physicians and treated by them, it is safe to say that even those cases do not receive or take one third of the treatment that is needed in the interest of both the individual and the public. No one well informed as to the prevalence of this group of diseases can seriously consider the treatment given as compared with the amount of treatment needed without again agreeing that the unoccupied field in this sector is from two to five times greater than that which is adequately held by the forces of science.

Again, we hasten on. We have arrived at adult life. In the interest of time, we introduce but one witness, but that an altogether sufficient one for the question involved. The Life Extension Institute of New York, in the last two years, has examined about 250,000 people, of both sexes, all races, engaged in various industries and living in different parts of the country, the persons examined being selected indiscriminately with reference to appearance. The institute found that about 60 per cent. of those examined were in need, at the time of examination, of medical treatment, and not more than 20 per cent. of those needing treatment were receiving it. In short, it was found that, in adult pathology, the field was about one fifth occupied and four fifths unoccupied.

Truly, the fields are white unto the harvest, but the laborers are few. This great surplusage of disease makes the interest of the profession and the public one, binding citizen and physician in a common purpose, coupling the determination of the public to remove disease surplusage with the ability of the profession to bring about the removal. Let those shallow minds and timid souls among the brethren who fear or feign to fear a curtailment of professional opportunities and rewards, both material and immaterial, remember that only through the use of medical science, only by making the field of medicine larger and more attractive, can this waiting, unoccupied field of medicine be reclaimed from the domain of ignorance and need.

DEVELOPMENT OF THE MUTUAL INTEREST

Medical science cannot hold the nose of the public and pour remedies down its throat; it is not a child incapable of thinking, insusceptible to advice and reason. The need of remedies and the value of remedies must be explained to the patient, and a desire to be treated created in the patient's mind. In short, a greater demand for the application of medical science to the existing surplusage of disease must be developed.

INCREASING THE DEMAND

In increasing the demand for medical science, in intelligently enlarging the usefulness of medicine, we have an educational problem confronting us. Intelligence appreciates, uses and pays for medical science; but ignorance neither appreciates, uses nor pays.

There are two principal ways of developing this educational work. One way is by the written word, bulletins, pamphlets, press articles and literature in various forms. The other way is by the living voice addressed to individuals collectively. The first is the method of the Bible; the second, that of the preacher.

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

The first way is the usual method pursued, and, in general terms, about the only method available for such central agencies as federal, state and associational health services; furthermore, for most local health agencies, in which personnel in proportion to the population to be reached is limited, education by the written word is the method that has to be depended on very largely. The second way, the living word, is a method that exists potentially rather than actually. It is needed for close-up work; it has the element of personal contact which carries, in addition to the letter, the spirit that gives it life; it is the only way that a large, unreading, potentially influential voting population gets its information and its inspiration. The first way, by the written word, scattered broadcast through printed page from some long distance agency, is helpful and is necessary as is the barrage in preparation for a hand to hand fight; but the second way, by the meeting of the masses in person, talking to them collectively, answering their individual questions before collective groups, dealing with them as man to man, is as necessary to carry the strongholds of superstition and prejudice for the forces of science and progress as is the infantry attack in battle.

It is not necessary to discuss here public health education through the written word. We are all familiar with that. I do, however, want you to consider carefully the need and the potentialities of educational work through the living voice, directed toward raising the popular intelligence with respect to the prevalence of disease and impairments and the more extensive use of medical science. Consider, if you will, the weak position of our church or denominational organizations if these organizations depended on their state publications, their correspondence and their traveling evangelists, having no local and fixed group to do the collective educational work through the living voice, following this with pastoral or case work which the preaching makes possible and extends. Our local physicians, members of county medical societies, make their pastoral calls to heal the body sick physically as the minister makes his local call to heal the body sick spiritually; but they do not complete the local minister's program; they do not speak to their congregations, they do not preach the gospel of good health; of right living here; they do not teach the people collectively.

The county and local medical societies, particularly the rural medical societies, must become better organized for other purposes than merely to meet once a month, discuss differences of opinion with respect to scientific problems and occasionally construe the code of ethics. They must become organized to meet their social, collective, larger and common opportunities and obligations to what Dr. Osler used to refer to as the larger audience.

Our units of medical organization are so constituted today as to inhibit rather than encourage the education of the local people collectively by the living voice of their own physicians. Let some member of the average county medical society begin to make public addresses in his county on subjects in which he is especially interested and which are of far-reaching importance to the general welfare; no matter how worthy his purpose and how well performed his task, he unavoidably takes an advantage of his fellow practitioners, in that he, in educating his own people collectively, inevitably advances himself personally; he is looked on askance by his fellows, is called an advertiser, is discouraged, and suspends operations. Only the outsider from some distant point can speak to the people of the county without the risk of suspicion.

Suppose, on the other hand, that the average rural county medical society, say with twenty-five members, selects twenty-five subjects which will include 90 or 95 per cent. of the information on hygiene and health that the county people need, and secures the promise from each of its members to speak or read once each month an address or paper which the county society writes, or secures from some outside source and finally adopts as its own address. Note that the address or paper is now not that of the person who presents it, but is that of his profession. Such a program would mean a total of 300 public addresses during the year, which, given to average audiences of only 100 people, would reach a total audience during the year of 30,000; that is, practically the entire population of the county. Under such an arrangement, collective medicine would make contact with collective thought; and no outsider, federal official, state official or any one else could come between the local group of physicians and their own people. It is high time that the organic units of the medical profession begin to assume their rightful leadership in public thought, the local professions no longer being content with pastoral visits and with no well considered plan of collective work for the physical salvation not only of their people but of themselves as well.

SUPPLYING THE INCREASED DEMAND

As organization of the local unit of the profession, that is, the county medical society, is necessary to increase the demand for medical science and enlarge the field of medicine, so, too, the organization of the county medical society for the purpose of supplying the increased demand will be necessary. I shall touch only briefly on this phase of the subject.

The primary demand will be for examinations and diagnosis. The educational work above outlined will cause hundreds and thousands of those who become interested in the matter of health to wish to know whether they have an incipient or unrecognized disease or impairment, or whether, by alterations in living habits, their health may be promoted to a higher level. A secondary demand that will arise in consequence of such physical examination will be a more extensive demand for treatment.

In providing for these two demands, more adequate diagnosis and more adequate treatment through organized effort, it will be found that the plan of organization will involve both the local profession and the public, and will embrace both professional and business considerations—the former relating to the profession, the latter to the public. The two organizations, profession and public, and the two main considerations, professional and business, will merge and find their proper relations in a public county clinic, run and manned by the profession, and financed by the community.

In considering the professional organization of such a clinic in an average county of twenty-five practicing physicians, a service of four hours a week from each physician would provide 100 hours of professional service every week for the county. Such a public clinic could operate two afternoons, for four hours each, every week, with twelve physicians in attendance; or four afternoons, for two hours each, with ten physicians in attendance; or four afternoons, for three hours each, with eight physicians in attendance. However, the

number of hours served by the combined county medical society, and their arrangement of one day, or one afternoon, or several afternoons, and in groups of four, six, eight or ten physicians, are details for the consideration of the local county society. With 100 hours a week, and with physicians working in groups as they did in examining the drafted men during the war, from 100 to 150 people a week, from 400 to 600 a month, from 5,000 to 7,000 a year could be examined.

As a result of these examinations, a greatly increased demand for medical treatment will inevitably arise. Those needing and seeking treatment may be classified into those who can pay and those who cannot pay. The first class would be referred by the clinic to their family physician. In considering the second class, those who cannot pay, the charity practice of the county, we come to the business considerations involved in this organized effort to meet the increased demand for medical science.

In dealing with the business elements which enter into this problem, it will be well to observe, at the outset, that the burden of charity practice, constituting from 20 to 40 per cent. of practice, should not rest on twenty-five citizens of the county; that is, on the twenty-five practicing physicians; but it is a burden which should be distributed and which should rest on the entire citizenship of the county, its 30,000 people. All treatment administered in the clinic to the needy should be paid for by the public, and the funds paid in divided among the physicians serving the clinic, according to details to be worked out jointly by the county medical society and the group representing the public.

In securing funds for such a clinic, the following possible sources are to be considered: (1) a nominal charge against all who apply for clinic benefits; (2) local Red Cross chapter funds; (3) local funds received through the sale of Christmas seals; (4) appropriations by the city or town authorities; (5) appropriations by the county authorities; (6) an annual church collection from the churches of the county in response to the commission "heal the sick," and (7) contributions from benevolent and financially able citizens of the county. With the educational work on which all this is predicated, the necessary revenue to maintain a public clinic would be assured.

A business organization of interested, broad-visioned, public-spirited men and women should be effected, in order to organize the people of the county around the clinic. Such a lay organization would assume two definite tasks: (1) arranging for the places and notices for public addresses by the physicians, and (2) securing funds with which to finance the clinic.

The local medical society would work out with this group of business men, and define on paper, the conditions under which the business group, representing the community, would issue cards of admission and requisitions for treatment to those who applied. In the whole scheme, the local society, through organized effort, would assume the initiative, and approve everything that was done in providing for both the increased demand with respect to diagnosis and the increased demand for treatment.

The profession at present is extensively and intensively interested in the development of public hospital facilities. This is a worthy interest, and should be encouraged in every way. But the hospital is something that will come only when the local county people have been informed through educational methods as to the prevalence and meaning of disease and impairment; and when they have demonstrated, through a public clinic, what can be done through organized effort in the treatment of disease and impairment. In short, public organization to care for disease and impairment in an adequate way will follow and never precede professional organization. We shall have organization and cooperation without when we get organization and cooperation within.

ABSTRACT OF DISCUSSION

DR. W. S. LEATHERS, University, Miss.: I have had the opportunity during the last several years of making observations along the line that Dr. Rankin has discussed, and I believe that he touches a most important phase of preventive medicine when he emphasizes the unoccupied field of medical practice. There can be no question about the fact that the surplusage in the treatment of disease is one of the outstanding phases of public health work in the prolongation of human life. Reference is made to maternity and infant welfare work and the relation of the midwife to infant mortality. In my own state, a careful survey has been made during the last year as to the number of midwives, and it appears that there are more than 4,000 in Mississippi, more than 95 per cent. of whom are negroes. It is doubtless true that about 40 per cent. of all births are attended by midwives who are incompetent and uninformed. It is clear, therefore, that this is a matter that should give us much concern in the conservation of the health of mothers and in the prevention of infant mortality. In view of the fact that the physicians in many of the states are not well distributed in relation to the population, there is at this time a considerable restlessness on the part of the general public relative to the care given them from the standpoint of the medical profession. The country people are not getting the attention which they think they deserve in the treatment of disease, and therefore there is a grave responsibility on the medical profession in the working out of a better adjustment or plan in giving medical attention and care to people in rural districts. It seems to me that the time is rapidly coming when there should be in every county, or group of counties, a hospital which shall be available for the people requiring medical attention, and which will afford them the very best medical aid. It is quite discouraging to the family living in the country, say 10 or 15 miles, who needs medical attention and has to pay the physician $3 for the first mile and $1 for each mile thereafter. This situation almost makes it prohibitive for the average family to secure the necessary medical attention. Dr. Rankin makes it very clear that education is fundamental in the prevention of disease and in the prolongation of life. If the general public were educated properly, the 50 or 60 per cent. who have no appreciation of scientific medicine would seek the advice of a competent physician. It is very desirable, therefore, that public health activities should be so directed that the people are educated not only in the science of preventive medicine, but also relative to the importance of seeking medical advice promptly when ill. The prevention and cure of disease are in a way inseparably associated for the reason that in many diseases an early diagnosis means prevention as well as cure.

DR. A. S. HERSHFIELD, Chicago: We are hard put as physicians to live down the errors of omission and commission of our forefathers. There was always something mysterious about medicine, and even a patient who received a prescription written in Latin regarded it as something mysterious without ever taking the medicine. There was something mysterious about the doctor; in other words, he appealed more to the mysticism of the public than to their intelligence. He is trying to live it down now. But, in this living down and treating the public as intelligent beings, we find the Christian scientists and other sects coming in with the mysteries that we are beginning to abandon, and that is why they are enjoying the vogue they are today, because we are appealing to the intelligence and they are appealing to the mysterious. That is something we have to preach. Dr. Rankin

enumerated a number of contributions to public health work, but I did not hear how he was going about preaching the danger of medical politics. That is the essential factor. The chiropractors and the other cults are thriving because they get in under the law. The doctors sit back and let these people appeal to the mysterious that we are trying to live down. We have nothing to back us politically. Why can we not be politicians? If we are right in the work we are doing for public health, why can we not have men to represent us in the legislature and not politicians who laugh at us because we have no political standing and no physician wants to get up and fight for his right, because politics is below his dignity? He is sat on, he is taken advantage of, and the things we are trying to abandon are forced on us.

DR. A. N. MCCORMACK, Louisville, Ky.: Having for several days listened to the vapid utterances of some of the superficial and ignorant members of our own profession who had no more conception of its possibilities than they had of the simplicity of the wonderful method of salvation, it is refreshing to listen to the words of a wise man who would lead us out of the wilderness in which some of our noisy but utterly mistaken leaders are trying to bury us. There is no trouble about physicians practicing medicine in the country districts, or about physicians in our cities who are carrying on the work; the trouble is from the various commercial organizations forming in the profession. We are told that America needs more organizations for physicians and that the physicians of America are interested in nothing but their own livelihood. The time is coming when those who work must rise and talk and must furnish our profession with leadership if we are going to get anywhere. We have stayed too long silent, or these things could not happen. Dr. Rankin's paper will be mimeographed and sent to every physician in Kentucky, so that it will be read in every county society. Down in Panama I saw this plan in operation, and I realized that there the public is so well educated that it demands real medical service, and it takes five times as many physicians as we have in the most thickly populated section of the United States to give that service, and it is to supply that demand that we must look forward to the real future in medicine; yet we hear our little folks get up and say, "There are enough doctors." There is not enough foresight in this country yet to realize the number of physicians needed when Americans are made the healthy persons they ought to be with the knowledge we have as to how to keep people well.

DR. RACHELLE YARROS, Chicago: I want to endorse practically everything that Dr. McCormack has said. We cannot have too many endorsements of such good sense, courage and progressivism. There are many in the profession who share his views, but refrain from expressing them. If such a paper will be read not only by the physicians of Kentucky, but by all physicians in the United States, many of the doubts and fears now entertained will disappear, creating a greater tolerance on the part of the profession toward some of the newer problems of public health. Many of the difficulties that we encounter in this connection are no doubt due to the fact that most members of the profession have far too little time to follow the new developments in medical work of today and the modern demands that society is making on us. We must learn this lesson as quickly as possible: that health education of the lay public is always helpful to the profession. It always creates greater demands for the services of physicians as well as gives greater opportunity for work in new fields. This can be illustrated most clearly by citing the instance of the education of the public in venereal disease control work. The same no doubt can be said about tuberculosis and other public health measures, such as the "bill for better maternity care," as Dr. Rankin stated so well. My experience is that the public is now more ready than ever to receive and benefit by health education, and naturally looks to the profession to take the leadership in supplying such education. Unfortunately, too many physicians have adopted a short-sighted attitude and have either stood aside or actually fought every progressive tendency in public health, making every effort to minimize the value of education of the lay public in health matters. It is a pity that physicians in fighting the newer measures of public health have produced the impression among enlightened laymen and social workers that they are actuated solely by selfish considerations. As a profession, we must begin to abandon our extreme individualistic attitude and train ourselves to cooperate more readily with social agencies working toward the physical and mental health of the public. Public health and hygiene are not purely medical problems. They have economic, sociological and psychologic aspects which we must recognize. We must be willing to exchange ideas with workers along those lines. When we cannot lead, we should be willing and glad to work with others on a footing of equality.

DR. DUNCAN B. MCEACHERN, Chicago: Dr. Rankin simply makes a plea for what might be called historical perspective. If medical men would take a historical perspective of society, it would be quite evident that society is an evolutionary affair. We can go back before the establishment of public schools, when the education of the people was detailed to individual teachers, and we can see how unsatisfactory that method of teaching would be if applied today. The medical men of today are in the same position that the schoolteachers were before the days of Horace Mann. They are trying to apply their knowledge individually instead of *en masse*. I do not care whether you call it state medicine or not, but the activity of the medical man must be along the lines indicated by Dr. Rankin. The medical man has to accept the responsibility for this 60 per cent. untreated disease that exists in the community. The amount of disease in a community is a measure of the efficiency of the medical profession. Eventually state or public health organizations will have to take over the activity of the medical man. He has been in the habit of looking at the general public as something to exploit. A wise physician once said to me that all professions were conspiracies against the public; that the average man is out to get something from the public instead of giving something to the public. The public demands the same measure of intelligence in handling its health problems as it does in handling its educational problems. Unless the medical man will look at the matter in this light, the public will take affairs into its own hands. In the schools we might establish small clinics, and there should be several beds in schools for children who need tonsillectomies. I think that every school should be furnished with an optical department, and glasses should be furnished the same as textbooks are.

DR. W. S. RANKIN, Raleigh, N. C.: I want to say a few words regarding the activity or inactivity of the health officers in dealing with sectarian medicine. Let us see who is responsible for it. The state representatives come to the state capitol and pass laws. Those laws reflect the feeling of the people back home. They pass laws regarding sectarian medicine because the people back home have not been educated against the evils of quackery. If physicians were organized and were in touch with collective thought, there would be no man in the state legislature voting for chiropractic and other sects. It must come back to the collective work of the men in the ranks. In an organized county in North Carolina, lectures are to be given to the people once a month dealing, among other things, with sectarian practice, chiropractic, osteopathy and all the other false doctrines that have preceded them, and there will be no legislative sentiment in support of them. The general practitioners are the soldiers in the ranks; and if they do not become active, we shall never establish this public health work. When you come to think about it, there is only one really live adult organization, and that is the church. Churches are well organized. What do they do with a new member? They try to get him to do something. It does not make any difference whether it is teaching Sunday School or what it is, but they want him to work. If he is not made active, he is not interested. If the church does not get him interested, what happens? The man does not go to church except when his conscience bothers him. He does not know what the church is doing. He misunderstands, he criticizes, he obstructs and hinders. If we can get the physicians of this country actively interested in public health work, both the profession and the public will be benefited.

DRUG THERAPY IN PYELITIS *

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The present study is concerned with an attempt to determine the direct mode of action of several of the more commonly used drugs in the treatment of pyelitis. The action of the alkalis, of hexamethylenamin and of phenyl salicylate has been studied.

First, it must be said that pyelitis, in most instances, is a self limited disease, which may disappear almost as rapidly as it appears. It is sometimes discovered accidentally by routine examination of the urine. At other times, it may be associated with very severe symptoms, being, even, rapidly fatal, owing to renal complications. Our inability to distinguish between pyelitis with and without renal involvement makes it extremely difficult to differentiate, at the onset, the severe from the mild; at present, the clinical course is the sole criterion. This difficulty practically rules out the possibility of comparing the various modes of treatment by studying a given number of cases. In treating the same patient first in one way and then in the other, it is impossible to determine whether the disease would not have cleared up if the first treatment had been continued instead of the second being instituted.

In taking up the value of alkalization from the historical standpoint, Thompson of Edinburgh seems to have first emphasized the value of alkalization of the urine on purely empiric grounds. He has given no theory of action, nor has any one given us a satisfactory explanation of its value. In a recent article on the treatment of pyelitis, Browning [1] says, "The change in reaction of the urine causes the tissues to be bathed in a fluid which is more bland, and thereby enables them to combat the infection more effectually." Normal urine is slightly acid, so that the normal mucous membrane of the urinary tract is developed to withstand these degrees of acidity without damage. Whether this applies also to an inflamed mucous membrane has not been determined.

The question that naturally arises is whether the alkalization is merely a means of increasing urinary output and flushing the passages, or whether it has a definite specific effect. The greatest alkalinity that has been found in urine of human beings is p_H 8.6, the same as a saturated solution of sodium bicarbonate. Since in this alkalinity the colon bacillus grows luxuriantly, it is evident that this degree of alkalinity is insufficient to influence the clinical condition by its action on the growth of this organism. The growth of the colon bacillus is not inhibited until the hydrogen ion concentration reaches from 9.2 to 9.6. Since, at the acid end, inhibition of growth occurs at from p_H 4.6 to 5, and urines with hydrogen ion concentration as high as 5 may occur, the inhibitory action by acidity alone would be possible.

After the disappearance of the general symptoms, fever, malaise, anorexia, and so forth, the urinary findings in pyelitis are usually as marked as before; so that it seems possible that the alkalinity might prevent the formation and absorption of toxic products producing the general symptoms. Experiments were conducted in order to determine whether there is a difference in toxicity when the colon bacillus is grown in acid broth and when in alkaline broth. Bacilli were grown at an acidity p_H 5.4 and at an alkalinity of p_H 8.6 for twenty-four hours; the cultures were then filtered, and the filtrate was injected intravenously into rabbits, similar amounts of the acid and of the alkaline broth being used as control. The reactions were practically identical. Both the alkaline and the acid broth produced a febrile reaction of from 2 to 5 degrees; the filtrates caused a slight rise of temperature and then a marked lowering of temperature. The reactions of alkaline and acid filtrates were practically identical. The difficulty of growing the organisms at a definite hydrogen ion concentration is that ordinary alkaline mediums in which there is sugar rapidly become acid, and acid mediums more acid. Sugar-free alkaline mediums become more alkaline and sugar-free acid mediums tend to become alkaline. In these experiments, an excess of sodium bicarbonate was added to the alkaline broth and a buffer mixture to the acid broth, so that the hydrogen ion concentration after twenty-four hours was within two tenths of that before inoculation.

A number of observers have said that if alkalization does not clear up the infection, the rapid change to the use of hexamethylenamin and acidification proves effective. This treatment may owe its effectiveness entirely to the action of the hexamethylenamin; on the other hand there is a possibility that the beneficial effect is due to the lag observed in the growth of bacteria when their culture medium is changed. The lag is the time required for the bacteria to acclimate themselves to their new surroundings. The change from acid to alkali, and vice versa, might tend to retard the development of the colon bacillus. We, therefore, studied the rapidity of multiplication of the colon bacillus when grown in acid broth and transplanted to alkaline, as compared with that of one that was grown in alkaline broth for numerous generations, and vice versa. No striking differences were observed in this series of experiments when they were carried on in mediums without a buffer. As the growth of the colon bacillus changed the hydrogen ion concentration of the medium very rapidly (so that if the concentration at the time of inoculation is 8.6, after a few hours of growth it may be only 6.4), it was thought best to repeat the experiments in mediums with buffer mixtures, so that the reaction, after twenty-four hours' growth, would be very nearly the same as before inoculation. It was not possible in any of the experiments to demonstrate any appreciable lag when the colon bacillus was transferred from an acid to an alkaline medium, and only a very slight lag when it was transferred from an alkaline to an acid. These experiments do not exclude any effect that the alkaline mode of treatment may have on the formation of bactericidal substances by the mucous membrane.

A special effort has been made to determine whether there was any action of hexamethylenamin at the level of the pelvis. It is well known that urine from the bladder, if acid, can be rendered sterile by hexamethylenamin. According to the experiment of Shohl and Deming,[2] with a hydrogen ion concentration of 5.2 and a total urinary output of 1,500 c.c., a dosage of 3 gm. of hexamethylenamin will produce formaldehyd in two hours sufficient to kill 90 per cent. of all bacteria.

* From the Section on Pediatrics, Mayo Clinic.
* Read before the Section on Diseases of Children at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Browning, C. H.: The Diagnosis and Treatment of Nonvenereal Pyogenic Infections of the Urinary Tract, with Special Reference to Urinary Antiseptics, Glasgow M. J. 97:38-45 (Jan.) 1922.

2. Shohl, A. T., and Deming, C. L.: Hexamethylenamin: Its Quantitative Factors in Therapy, J. Urology 4:419 (Oct.) 1920.

They have also shown that the nearer the reaction of the urine approached neutrality, the lower was the concentration of formaldehyd and antibactericidal action. With a p_H 6, insufficient formaldehyd was formed even in twenty-four hours to kill all bacteria. At neutrality, there was no production of formaldehyd. In infants, the urine rarely remains in the bladder more than from one to one and one-half hours. Even if conditions of acidity in the urine of the bladder are ideal and the hexamethylenamin is sufficient, it would be almost impossible to obtain a bactericidal concentration of formaldehyd because of the lack of time.

I recently observed a child who had suffered from pyelitis for three years. Ureteral catheterization, some months before, showed bilateral infection of the renal pelvis. The urine, on first examination, contained innumerable bacilli, but only a few pus cells. The child was put to bed, fluid was forced, and 15 grains of hexamethylenamin and 20 grains of sodium acid phosphate were given every six hours. In spite of the sodium acid phosphate, the hydrogen ion concentration of the urine remained about 7, varying from 6.8 to 7.4. At the end of eight days, the urine of the bladder was sterile, but numerous bacteria could be seen in the centrifuged specimen. A few days later, the child underwent cystoscopy, and urine was obtained from both ureters and from the bladder, and cultures were taken. All the cultures were sterile, and the hydrogen ion concentration was 7.4. What had caused the disappearance of the infection? The urine was alkaline; the formaldehyd could never be in sufficient concentration to be bactericidal. There is, of course, a possibility that disappearance of infection was merely a concidence, or due to rest in bed and forcing of fluids, but the three year history is rather against such an assumption. It raises the question of a possible action of hexamethylenamin in alkaline mediums. A particularly interesting experiment was made to determine the condition of the urine from the ureters, when the urine from the bladder contained sufficient formaldehyd to sterilize it; and to determine the length of time required to render the urine from the ureters sterile. Thus far fourteen cases have been studied, but an appropriate, deciding case has not been found.

Experiments with the use of phenyl salicylate (salol) have been somewhat limited, because indications did not warrant further investigation. They consisted of two cases of pyelitis in which the dose of phenyl salicylate was increased gradually to a point at which it was unjustifiable to go farther.

In the case of one patient suffering from pyelitis, the dose of phenyl salicylate was increased to 5 gm. daily, without any effect on the bacteria in the urine. With this dose, the urine was not bactericidal; and it turned rapidly dark on standing; indicating the presence of pyrocatechin and hydrochinon. In the case of another patient, the dose was increased gradually to 4 gm. daily, at which time there was rapid change of the color of the urine, to a dark brown. In neither instance was any antiseptic action observed. Since these doses are much higher than those usually advised for the treatment of pyelitis, I feel warranted in maintaining that, in the doses usually given, phenyl salicylate has practically no value in rendering the urine sterile by its direct action on bacterial growth.

From a review of the literature of pyelitis, particularly of its treatment in infancy, the impression is gained that few observers have found hexamethylenamin of much value. In most articles on the subject, alkalization is the treatment of choice in the acute cases. However, there is no evidence that alkalization has any direct specific effect, except, possibly, its diuretic action. The possible effect of alkalization on the tissues is not considered in this paper, it being the subject of a separate experimental study.

SUMMARY

In acute cases of pyelitis, the alkalis are useful, but we have no evidence of any direct specific action. Hexamethylenamin has a very definite bactericidal action in the bladder, but whether this applies also to the pelvis of the kidney has not been demonstrated. Phenyl salicylate does not have antiseptic properties in the doses given.

UROLOGIC SURGERY IN PEDIATRICS*

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It may be said without fear of contradiction that the urologic study of pediatric cases has not received the consideration that is due so important a subject. This is practically an undeveloped province of medicine, and, as evidence of this statement, attention may be called to the scant references, both in pediatric and in genito-urinary literature. In this country, Beer,[1] Hyman,[2] Hinman,[3] Stevens,[4] Thomas and Tanner,[5] and Helmholz and I[6] have made a study of the subject—not a large showing. Hence, it appears to me that this province for clinical study has been decidedly neglected, though the problems and possibilities undoubtedly are many and of great variety. But to achieve gratifying results, the closest cooperation between the pediatrician, general practitioner and genito-urinary surgeon is necessary. This alliance effected, I am ready to admit, without being unduly enthusiastic, that pediatric urology will be the open sesame for extensive work for both pediatricians and urologists.

On reflection, it appears that there is no really sound reason for this backwardness of pediatric urology. A perusal of the table of diagnoses (Table 2) shows that the lesions of the genito-urinary tract in children differ in no way from the various pathologic conditions found in adults, except as regards those incident to age, such as carcinoma. Then what are the reasons for this failure to keep abreast of the advances made in urology in adults? The reasons are:

1. The general practitioners and pediatricians who attend infants and children have not availed themselves of the advantages and opportunities of urologic studies because of the difficulty in eliciting symptoms in these patients, and probably because they are not familiar with the possibilities inherent in this subject.

* Read before the Section on Diseases of Children at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Beer: Am. J. Surg., March, 1911.

2. Hyman, A.: Urinary Tract Surgery, Am. J. Dis. Child. 15: 116 (Feb.) 1918.

3. Hinman, F.: Cystoscopic Study of Urologic Conditions in Children, Am. J. Dis. Child. 17: 305 (May) 1919.

4. Stevens, W. E.: Diagnosis and Treatment in Pathologic Conditions of Urinary Tract in Children: Modern Methods, J. A. M. A. 77: 1081 (Oct. 1) 1921.

5. Thomas, G. J., and Tanner, C. O.: Minnesota Med. 5: 147 (March) 1922.

6. Helmholz, H. F., and Kretschmer, H. L.: Treatment of Pyelitis in Infancy and Childhood, J. A. M. A. 75: 1303 (Nov. 13) 1920.

2. The genito-urinary surgeon is not the first one called to see these cases, and, furthermore, there are certain limitations in his armamentarium. With the recent advances in the art and science of instrument making, instruments of small caliber have been perfected, so that these little patients can be subjected to cystoscopic examination and ureteral catheterization almost as easily as can the adult. Not only can these patients be examined with special instruments of precision, but the same diagnostic measures that are employed in the adult can be and should be used; namely, roentgen ray, pyelography, functional tests, blood chemistry, and chemical and bacteriologic studies of the urine as obtained by ureteral catheterization.

This article is based on a personal experience in a series of sixty cases.

INDICATIONS

The indications for urologic study in children are the same as for adults, but their verification is difficult, since many children cannot accurately describe their symptoms. Especially is this evident in the treatment of infants, for one must rely on the statements of the parents or nurse, whose powers of observation are often not very keen, or, in fact, so defective that frequently the chief indication must be based on the results of urinalysis.

The presence of pus in the urine (thirty cases) was the most frequent single indication for cystoscopy in the group herewith reported. A large number of the

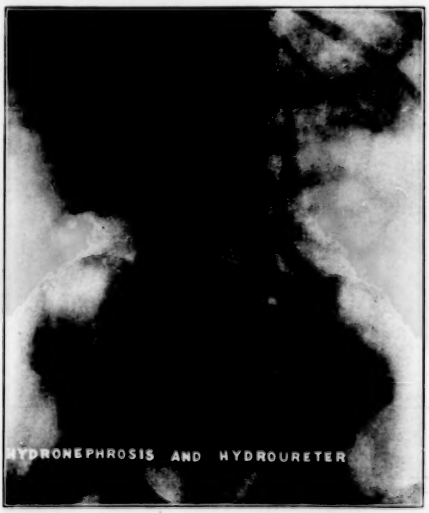

Fig. 1.—Hydronephrosis and enormous dilatation of ureter; catheter forming a loop in the ureter.

patients came to the hospital without any very definite complaints. In the course of the routine physical examination, pus was found in the urine, and for this reason the patients were referred for study.

Hematuria as an indication for complete urologic study is very common in adults and quite the reverse in children. This is due to the common occurrence of tumors in adults and their rarity in children. The presence of macroscopic blood was the reason for cystoscopy in only eighteen cases.

In several cases, the patients were examined with the cystoscope because of enuresis; and, while this may not

Fig. 2.—Large, solitary, pure cystin stone.

always constitute an indication for cystoscopy, it is well to employ the cystoscope in these cases, in order to exclude a possible pathologic condition in the bladder that might be responsible for the enuresis. In one case, that of a boy, the cystoscope was employed because of an overdistended bladder, the bladder extending above the umbilicus. The patient, who was admitted to the hospital because of overflow incontinence, suffered from a congenital valve formation at the neck of the bladder. Two boys were referred because of bed-wetting. Cystoscopic examination revealed the presence of stones in the bladder.

TABLE 1.—AGES

	Number of Cases
7 months	1
8 months	1
11 months	2
1 year	4
2 years	8
3 years	7
4 years	5
5 years	2
6 years	3
7 years	5
8 years	5
9 years	1
10 years	4
11 years	1
12 years	3
13 years	2
14 years	4
Not stated	3

LIMITATIONS OF CYSTOSCOPY

In boys, for anatomic reasons, cystoscopy and ureteral catheterization cannot be carried out as early as in girls. The youngest patient in this series was a girl, aged 7 months at the time of the first examination. In this patient, ureteral catheterization and pelvic lavage were carried out. As previously mentioned, very small instruments are now available for both cystoscopy and ureteral catheterization.

SEX AND AGE

In this series of 60 patients, twenty were boys and forty girls.

The youngest child in whom ureteral catheterization was done was a girl, aged 7 months; the youngest boy in whom a plain cystoscopic examination was made was 11 months old. The ages are indicated in Table 1.

DIAGNOSIS AND SYMPTOMS

In Table 2, the fact is made clear that the various lesions met with in infants and children are not very

TABLE 2.—PATHOLOGIC CONDITIONS

	Number of Cases
Pyelitis	28
Pyelonephritis	4
Hydronephrosis	4
Renal tuberculosis	4
Sarcoma of the kidney	2
Nephrolithiasis	1
Acute hemorrhagic nephritis	1
Hydro-ureter	1
Ureter stricture	1
Bladder calculus	4
Cystitis	5
Enuresis	2
Angioma	1
Gonorrheal cystitis	1
Trigonitis	1
Diverticulum	1
Polyuria	1
Spina bifida	1
Congenital valve of posterior urethra	1
No diagnosis	3

different from the lesions which occur in the ordinary run of adult urologic cases, with the exception of lesions incident to age, such as malignant tumors of the bladder and prostate and hypertrophy of the prostate. In adults, the common malignant kidney tumor is

Fig. 3.—Three small cystin stones in the bladder.

hypernephroma; this tumor rarely, if ever, occurs in childhood. On the other hand, sarcoma of the kidney is more frequently seen in children than in adults.

The symptoms, analyzed in Table 3, are similar to those which occur in adult cases, taken at random. Hematuria, a relatively common symptom in adults, is rather uncommon in children; nevertheless, the presence of blood in the urine either grossly or microscopically was recorded in eighteen cases.

PYELOGRAPHY

In the series of cases described, pyelograms were not made in every instance, my attitude in the matter being conservative; that is, only when indicated was this procedure followed. While accidents and complications following pyelography are few and far between, it cannot be denied that adults suffer at times rather severe reactions. Bearing this in mind, and also the

Fig. 4.—Extensive calcification in the right kidney in case of bilateral renal tuberculosis.

fact that many of the children had been examined cystoscopically under anesthesia, and considering the difficulty of determining just when the pelvis is completely filled, I have been rather reluctant to subject

TABLE 3.—ANALYSIS OF SYMPTOMS

	Number of Cases
Fever	32
Pyuria	30
Hematuria	18
Frequency	16
Vomiting	15
Painful urination	11
Incontinence	11
Headache	7
Burning on urination	5
Diarrhea	5
Dribbling	4
Chills	4
Difficult urination	4
Nausea	4
Irritability	3
Passage of sand	3
Retention	2
Urgency	2
Palpable tumor	2
Tenesmus	1
Backache	1
Sweats	1

them to pelvography, unless it was absolutely necessary. But it should be emphasized here that pyelography yielded valuable information in a number of instances. In a girl, aged 9 months, in whom a provisional diagnosis of chronic colon pyelitis had been made and pelvic lavage instituted, it was soon evident, because of the failure of the patient to respond to this treatment, that something besides a simple pyelitis was present. This was substantiated by the pyelogram, which revealed a hydro-ureter and hydronephrosis. In another case, the pyelogram revealed a stricture of the ureter, with enormous dilatation of the ureter and kidney pelvis,

the ureter being large enough to allow the catheter to bend, forming a large loop (Fig. 1).

It would appear, judging by what has just been stated, that, even in very young patients, pyelography has a definite field of usefulness in selected cases.

CYSTOGRAPHY

While cystography has a rather limited field in the urologic study of adults, its field of usefulness is probably still more restricted in pediatrics, and it should be supplemental to, and not substituted for, other procedures. The making of cystograms in cases of children has been previously reported.[7]

ROENTGEN RAYS

Roentgen-ray examinations should be carried out in all cases, with the realization, however, that there are certain cases of calculus that cannot be demonstrated by roentgen rays. One patient, a boy, aged 2, had a large vesical calculus which was not demonstrated by the roentgen ray but was diagnosed by cystoscopy. In three cases, the roentgen ray revealed the presence of calculi (Figs. 2 and 3); and, in two cases of renal tuberculosis, the presence of extensive areas of calcification (Fig. 4).

URETERAL REGURGITATION

Regurgitation of the fluid up the ureter was noted under two different circumstances: (1) in normal children with normal urinary organs, free from infection, in whom the bladder was filled with solution for purposes of cystography, and (2) during ureteral catheterization. This phenomenon was proved by injecting a

Fig. 5.—Bilateral pyelogram in a girl, aged 7 months, showing enlargement of the renal pelvis.

solution of argyrol into the bladder. Shortly afterward, the urine, dropping from the ureteral catheter, was colored with argyrol solution. Both these occurrences have previously been reported, the latter in an article on the treatment of pyelitis in children.

7. Kretschmer, H. L.: Cystography: Its Value in Surgery of the Bladder, Surg., Gynec. & Obst. **23**: 709 (Dec.) 1916.

BACTERIOLOGY

Bacteriologic records were positive only in thirty-six of the sixty cases. Although the number of cases in which bacteria were found is small, it is not without interest that, according to Table 4, the organism which preponderated was the colon bacillus. Various writers

Fig. 6.—Hydronephrosis in a girl, aged 13.

have stated that the colon bacillus is the most frequent invader of the urinary tract in adults. My experience in this series of pediatric cases corroborates this opinion.

LITHOLAPAXY

Another urologic phase of pediatrics that has received little, if any, consideration in this country is the treatment of stone in the bladder. In India and in

TABLE 4.—RECORD OF ORGANISMS FOUND

	Number of Cases
Colon bacillus	25
Staphylococcus	5
Tubercle bacillus	4
Paratyphoid bacillus	1
Gonococcus	1
Sterile cultures	7

certain parts of Russia, litholapaxy has been resorted to in the treatment of bladder calculus in children. Freyer, in England, has reported a series of 140 litholapaxies in children.

In two cases in this series, litholapaxy was successfully carried out (Fig. 2). Rather large stones were crushed and completely removed, as evidenced by subsequent cystoscopic examinations. Chemical examinations of the fragments of both these cases showed the presence of pure cystin.[8]

8. Kretschmer, H. L.: Cystinuria and Cystin Stone, with a Report of a New Family of Cystinurics, Urol. & Cutan. Rev. **20**, 1916.

PELVIC LAVAGE IN PYELITIS

A certain number of cases of colon bacillus pyelitis resist all the usual forms of routine treatment, such as administration of alkalis or hexamethylenamin or the use of vaccines, or special diet. This group forms a very small number, to be sure; yet the problem of management in cases of relapsing pyelitis which do not respond to treatment is an important one, and one that has not received intensive study.

In a paper presented before the urologic section, Dr. Helmholz and I [6] reported a small series of cases in which pelvic lavage was carried out with satisfactory results. Further experience with pelvic lavage, in cases of pyelitis which have resisted all other forms of treatment, has yielded results that justify this form of treatment when the usual forms of treatment fail to cure these small patients.

SUMMARY

1. From a careful study of this series of cases, it is evident that the various pathologic conditions in infancy and childhood are similar to the various urologic lesions found in adults.

2. The diagnostic and therapeutic problems are identical.

3. There is no sound reason why these little patients should not be given the benefit of modern urologic diagnosis and treatment.

4. With a more widespread interest in this subject, more patients will be given the benefit of urologic diagnosis and study.

5. No doubt, with the study and the report of increasing series of cases, the entire subject will become more and more stabilized.

122 South Michigan Avenue.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. HELMHOLZ AND KRETSCHMER

DR. CLIFFORD G. GRULEE, Chicago: One might get the impression, if he had not listened closely, that there was no benefit to be derived from the administration of alkalis. I take it that Dr. Helmholz did not have that in view. The results of alkali administration in pyelitis, if carried out faithfully, are not to be questioned; and as a consequence I think, if I am not much mistaken, that Dr. Helmholz meant to say that his experiments had not yet shown how the alkalis acted. Evidently they had no marked bactericidal effect on the colon bacillus. As to Dr. Kretschmer's paper, I think it represents a general tendency. Our tendency in medicine has been to attempt to get something definite on which we can place a finger and say that this means something here and now. That is the reason the laboratory findings have been so exaggerated in importance by many because they felt that laboratory tests were something exact and something on which one could depend. As a matter of fact, any one who has done any amount of laboratory work knows that laboratory tests are subject to individual interpretation, and therefore they are of no more importance from the standpoint of diagnosis than anything else which is subject to human error. In this work we have demonstrated another approach in exact diagnosis, an approach which has not been used to any great extent and one which I feel will be of great value if we are careful in the selection of our cases. It is very satisfactory to have a cystoscopic examination or a catheterization of the ureters and to feel that you have reached the bottom of things in that respect. Another phase of this work which is not to be disregarded is the question of the treatment of pyelitis. Every one has seen cases of pyelitis in which the pus has persisted in the urine in spite of every effort on the part of the physician to overcome the pyelitis. Dr. Kretschmer does not claim that every case of pyelitis which he treats by his method and which is essentially a neglected case of pyelitis is going to be cured by such treatment. But when a case reaches the point at which approach by that method of treatment is impossible, this washing out of the pelvis of the kidney with silver nitrate solution is of the greatest benefit and in some cases has resulted, if not in cure, in betterment of the condition. Pyelitis has such a marked tendency to recurrence that cure must be spoken of advisedly. But, on the other hand, the clearing up of the pus in these cases is one of the things which we are glad to obtain.

DR. CHARLES SCHOTT, Chicago: I think many pediatricians have regarded this work as an adjunct which might help us to come to a conclusion in a case which is more or less puzzling. Many men would like to employ this method of diagnosis, but cannot call on somebody to help them out. It seems to me that it takes a real expert to do this work. A crude operator may do more harm than good, so that the ultimate value of the thing might be nullified. In hospital work, every method should be used to arrive at a diagnosis, so that at some future time we may say that here in this case cystoscopy is not necessary because we have used it in so many cases, experimentally, perhaps.

DR. W. MCKIM MARRIOTT, St. Louis: Two remedial agents have not been mentioned—calories and cod liver oil. There is a type of pyelitis that is secondary to malnutrition and will not be affected by any form of drug therapy unless the nutrition of the child is improved. In such cases, if the infant is treated, the pyelitis will clear up of itself. Dr. Helmholz has pointed out many ways in which the commonly used drugs do not work. Most of us, however, feel convinced that alkalis are of distinct benefit. There are one or two good reasons why one should expect alkalis to effect a favorable influence on pyelitis. We know that phagocytic immunity is inhibited in acid solution. We know that phagocytosis is one of the defenses of the body in pyelitis. We would not expect phagocytosis to be active in the presence of an acid urine; hence the advantage in neutralization of the urine. Furthermore, we know that it is not the pus in the urine that is doing harm, but the pus retained in the kidney that causes the symptoms. One frequently sees patients with high temperatures with no pus in the urine. When the pus appears, the temperature falls. We know that pus is more soluble in alkaline than in an acid medium. Is it not possible that alkalization of the urine aids in dislodging retained pus? Potassium citrate is a drug frequently used, although there is no good reason for the use of potassium salts. Sodium salts are quite as effective, and are free from the danger of potassium. Potassium salts are toxic, but they are rapidly eliminated in the urine under normal conditions; in pyelitis, however, retention may occur and definite symptoms of potassium poisoning result. Only the sodium salts should be used when it is desired to administer alkali.

DR. F. C. RODDA, Minneapolis: We know little about the etiology of pyelitis, very little about the pathology, and less about the treatment. Dr. Helmholz' attempt to put the treatment on a scientific basis is to be commended. The diagnosis of pyelitis is often based on finding pus in the urine, and yet Dr. Marriott has called attention to the fact that there may be bacterial invasion of the urinary tract with no pus. On the other hand, after the disappearance of the constitutional symptoms, pus may continue for a long time. We must have some criteria to tell when a patient is cured. The presence or absence of organisms, and the time when these disappear, is more important than the finding of pus. As regards the alkaline treatment, it is often hard to say whether we are getting any result from the drug or not. Often sodium citrate must be given up to 150 or 200 grains a day to get the urine alkaline, and yet we see physicians administering 5 or 10 grains twice a day. There seems to be a fear of administering hexamethylenamin in reasonable doses. We have given it up to 45 or 50 grains a day for a short time, carefully controlling the urine, of course, and watching for any signs of irritation.

V. 19

DR. LOUIS C. SCHROEDER, New York: I do not believe that any man can do this urologic work. I have seen barium used in a child with dilated ureters, the result of a congenital deformity, and the outcome was anything but satisfactory. We know that in adults, some fatal results have attended the use of different substances employed in urography. There is a distinct danger attached to it, and the impression should not go out that one can use any medium at all. I am interested to know what medium Dr. Kretschmer has used, for some mediums are toxic and should be avoided.

DR. FRANK C. NEFF, Kansas City, Mo.: I would like to suggest that the use of phenyl salicylate might have some effect in the type of pyelitis due to pyocyaneus infections. I saw such a case that was definitely cured by phenyl salicylate when the usual remedies failed. A possible cause of persistent pyuria is a diverticulum of the bladder or a congenital anomaly in the posterior urethra which interferes with complete drainage of an already infected urinary tract. Urologic examination will reveal such a condition and therefore should be resorted to much more frequently than pediatricians have been accustomed to doing.

DR. JAMES A. GARDNER, Buffalo: Urology is one of the newer departures in medicine, and it is still difficult to persuade physicians to send adults to the urologists and even more difficult to persuade them to send children. The impression prevails that instruments are made solely for use on adults. In recent years the instrument makers have perfected the cystoscope so that we now have instruments that can be used with equal facility on children. With the advances made in urology it has been demonstrated that children suffer from the same conditions as adults—diverticula, hydronephroses and pyelitis—and if an early diagnosis is made, infections, while they are still slight, are as easily cared for as in adult cases. The doctor spoke of deaths occurring from making pyelograms. I feel that there is really a small risk. With sodium bromid solution we have reduced it to a minimum, and, because of the large number of children who can be saved if a diagnosis is made, we are warranted in taking the risk.

DR. H. F. HELMHOLZ, Rochester, Minn.: Blocking of the ureters by acute inflammation is another condition that might be cured by the passage of a ureteral catheter. We must keep this mode of treatment in mind because the acute case with obstruction is the one in which the patient is likely to die of the infection, and a certain number of these patients can be saved by restoring the passage in the ureter. I purposely stated in my paper that I was discussing only the direct effect of drugs on bacteria and not on the organism. The most important drug in the treatment of pyelitis which has not so far been mentioned is water. All other drugs are merely an addition to water. In a recent discussion in Washington, Dr. Hugh H. Young, in whose laboratory a great deal of work has been done on drug therapy in kidney lesions, emphasized over and over again that water in large amounts is the most efficient drug in the clearing up of infections of the urinary tract, and I heartily agree with him.

DR. HERMAN L. KRETSCHMER, Chicago: It was not my object to emphasize any one phase of this subject but to present the experiences in this series of sixty urologic cases in infants and children, calling particular attention to the various diagnostic problems which are essentially the same as in adults, problems that should be settled before treatment is instituted. Much of the discussion has centered around the treatment of pyelitis by pelvic lavage. I did not want to present this as a specific, but the fact remains that in some of these cases we were able to effect a cure when all other forms of therapy had failed. Pelvic lavage will not cure all cases, and, when it fails, the question of a mistaken diagnosis immediately comes up. Dr. Helmholz undoubtedly will remember one of his cases in which pelvic lavage failed to cure the patient. Further study demonstrated the presence of a hydronephrosis; so that when pelvic lavage fails to bring about the desired result, one should search for the presence of other lesions that might keep up a pyelitis, such as an early renal tuberculosis, stone or hydronephrosis. The presence of some of these lesions, perhaps often unrecognized, may account for the failure of medical treatment. I agree, most fully, with Dr. Schott's statement about the necessity of making correct diagnoses in these cases—a point also emphasized by Dr. Grulee. I agree also with Dr. Helmholz, namely, that we do not give large enough doses of alkalis and hexamethylenamin in treating cases of pyelitis. Dr. Marriott is perfectly correct when he says that we should treat the patient as a whole, a fact that I have repeatedly advocated in treating pyelitis in adults. The point brought out by Dr. Schroeder regarding deaths after pyelography is a very important one, and I stated in my paper that we did not make pyelograms in every case, reserving its use to well selected cases. I do not believe that it makes much difference what medium is used. We have used both sodium bromid and thorium. The reaction, I think, is due to overdistending the infected kidney pelvis and carrying the infection into the substance of the kidney. I do not believe that the reaction is due to the chemical, although some chemicals undoubtedly are more irritating than others. Dr. Neff's point about careful urologic study is well taken, and I agree fully with him.

SYPHILIS OF THE LUNG*

ALFRED FRIEDLANDER, M.D.
AND
R. J. ERICKSON, M.D.
CINCINNATI

The voluminous literature on syphilis of the lung is characterized by contradictions. There is no unanimity of opinion as to frequency, type, anatomic picture or course. The essential features of diagnosis are variously given. It may thus well be that many cases of pulmonary syphilis are overlooked—that many cases of so-called lung syphilis are improperly diagnosed.

The development of a finer roentgen-ray technic has made it necessary to revise our preconceived notions of pulmonary syphilis. Indeed, there are not wanting roentgenologists of repute who feel that the roentgenologic chapter of lung syphilis is yet to be written.

But in summing up the mass of evidence as presented in the literature, certain outstanding conclusions seem to be justifiable.

Speaking in terms of visceral syphilis, the lungs must be regarded as organs which are relatively resistant. In saying this, it is to be remembered that reference is had here to the lesions of acquired syphilis. The "white pneumonia" of congenital syphilis described long ago by Virchow, Widal and others is excluded from the discussion. Lung syphilis, as compared with other tertiary manifestations of the disease, is a comparatively rare disease. According to Osler,[1] in 2,800 necropsies at the Johns Hopkins Hospital there were twelve cases of syphilis of the lung, and eight of these were of the congenital type—an incidence of the acquired type of 0.14 per cent. In 1,200 cases referred to the Jefferson Chest Hospital, Funk found pulmonary syphilis in four (0.3 per cent.). In a series of 2,880 necropsies, 314 of which showed lesions due to syphilis, Symmers found evidence of pulmonary syphilis in twelve—an incidence of 0.24 per cent.

* From the Department of Internal Medicine, University of Cincinnati College of Medicine.
* Read before the Section on Practice of Medicine at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.
1. Osler (quoted by Landis).

Such figures give convincing testimony as to the rarity of the classical forms of pulmonary syphilis. On the other hand, Watkins reports that of 6,500 roentgenologic examinations of the chest, the diagnosis of pulmonary syphilis was made in 172 cases (2.6 per cent.). But it is to be pointed out that the diagnosis of pulmonary syphilis by means of chest plates alone

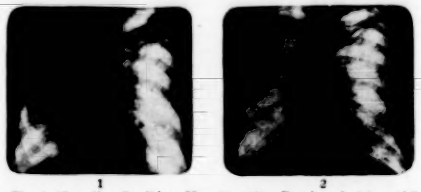

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Fig. 1 (Case 1).—Condition, May 31, 1920: Density of right middle lobe and upper part of right lower lobe, with marked fibrous changes at the right base; shadow indicative of gumma with fibrosis; definite knobby deposits in left hilum, with peribronchial thickening over middle and lower portions of left lung.

Fig. 2 (Case 1).—Condition, Aug. 27, 1920: Definite decrease in density in right middle lobe and upper part of right lower lobe; marked fibrosis over entire right side; left lung unchanged.

is not justified by the present state of our knowledge. Therefore the figures of Watkins as to the incidence of pulmonary syphilis, much higher than those of all the other series, must be taken with reserve. Attention should be called to the fact that French and Italian writers have described pulmonary lesions due to syphilis other than the classic type. Balzer has recently reported cases of syphilitic bronchitis with demonstration of spirochetes in the sputum. Such forms have not been described in America as yet. But the proneness of syphilis to attack the mucous membranes of the mouth, nasopharynx and larynx makes the assumption of syphilitic bronchitis at least plausible. The rapid improvement of these cases on antisyphilitic treatment alone also adds weight to the presumptive diagnosis. It may be that such lesions might occur in the secondary stage of syphilis as well. It would appear worth while to devote further study to this phase of the question.

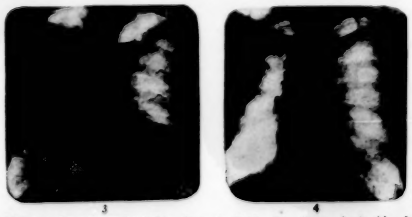

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Fig. 3 (Case 1).—Condition, Nov. 4, 1920: Density on both sides has decreased to a considerable extent; all evidence of gumma has disappeared.

Fig. 4 (Case 1).—Condition, Nov. 20, 1920: Some peribronchial thickening and some fibrosis in both lung fields; no evidence of pulmonary tuberculosis.

In a careful analysis of 120 cases taken from the literature, Karschner found pulmonary syphilis more common in males than in females, the ratio being 2:1, though the condition seemed more fatal to women than to men. The average time of appearance of pulmonary syphilis after the initial lesion was eleven years.

Excluding the congenital white pneumonia from discussion again, the commoner anatomic lesions are the gumma and the fibroid indurative processes. Secondarily, syphilitic bronchiectasis is not infrequently found, more rarely ulcerative and gangrenous lesions.

Gummas may be single or multiple, and may vary greatly in size. The softening of a gumma and the erosion into a bronchus may produce cavities which on superficial examination resemble the picture of pulmonary tuberculosis. Gummas are found more often about the hilum and in the lower lobes than elsewhere.

The studies of Warthin have shown that the gumma is not as common in pulmonary syphilis as is the low grade inflammatory process with subsequent fibroid induration. These indurative processes begin at the hilum and extend outward along the bronchi and blood vessels. Large areas of dense fibroid induration may thus be formed, and many cases of pulmonary fibrosis with bronchiectasis may have their origin in this way.

In addition to these commoner forms, Landis and Lewis have described cases in which the lesion consists of an area of consolidation and catarrh around the lung root or extending to the apexes. It has generally been held that the apexes of the lung are not invaded by the syphilitic process; but recent evidence, as

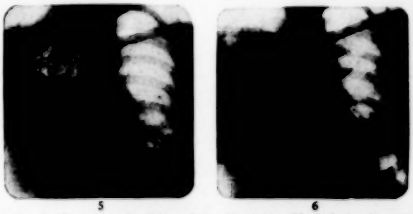

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Fig. 5 (Case 2).—Condition, Sept. 18, 1920: Marked density over upper and middle right lobe, with fibrosis in lower right lobe; increase in density in the left hilum region; moderate peribronchial thickening of the left lung field; no evidence of gumma.

Fig. 6 (Case 2).—Condition, Dec. 5, 1920: Density over the entire right lung area; fibrosis of left lung field as before.

gathered by the French school, has shown that the lung apexes do not escape the syphilitic process.

There are no characteristic symptoms of pulmonary syphilis. Cough, with or without hemoptysis, dyspnea, night sweats, loss of weight and moderate fever may all be present. Janeway first called attention to the frequency of fever, night sweats and loss of weight in pulmonary syphilis, and it was he who noted the fact that the pain in the right side of the chest in these cases is not due to pleurisy but to syphilitic perihepatitis.

When syphilitic mediastinitis complicates the picture of pulmonary syphilis, severe substernal pain with dyspnea, irritative cough and hoarseness, and evidence of circulatory obstruction are likely to be present.

There are no physical signs distinctive of pulmonary syphilis. The signs present are those to be expected with consolidation, fibrosis, bronchitis or bronchiectasis.

It is thus apparent that the diagnosis of pulmonary syphilis presents distinct difficulties.

With the symptoms and physical signs of tuberculosis, with repeated sputum examinations persistently negative for tubercle bacillus, with a positive Wassermann reaction, the diagnosis may at least be suspected. Roentgen-ray examination offers valuable confirmative

evidence, because the chest shadows in pulmonary syphilis differ in some degree from those of tuberculosis. In some cases, the chest shadows may be said to be almost distinctive of syphilis. Once the suspicion of pulmonary syphilis is entertained, intensive antisyphilitic treatment is called for. And if, under such treatment, marked improvement in the general condition and decided clearing of the chest shadows should occur, the diagnosis may be considered established. But there are several points that call for special emphasis in this connection. In the first place, syphilis and tuberculosis may coexist in the same lung. In such cases, arrest of the syphilitic process may occur under antisyphilitic treatment, the tuberculosis remaining unchecked. In the next place, certain cases of pulmonary syphilis do not respond to antisyphilitic treatment, and, finally, some cases of pulmonary syphilis clear without any antisyphilitic treatment.

It is the purpose of this paper to record the results of a study of all the patients admitted to the Cincinnati Tuberculosis Sanatorium (a municipal institution) during a period of two years. All grades of tuberculosis are, of course, admitted to the institution. About 65 per cent. of all the cases belong to the far advanced group of the National Tuberculosis Association classi-

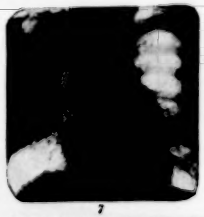

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Fig. 7 (Case 2).—Condition, Feb. 9, 1921: Upper and middle right beginning to clear; right lower clearer than before; left lung field clear.
Fig. 8 (Case 2).—Condition, March 27, 1921: Density over entire right side greatly diminished; left lung field normal; heart shows enlargement of all diameters of the aorta, and also of the transverse diameters of the heart with aortic configuration.

fication. During the years 1920-1921 there were 791 adult patients admitted to the sanatorium. Of these, 609 (77 per cent.) were white, and 182 (23 per cent.) were colored. Though the colored patients constituted but 23 per cent. of the total hospital census, 33 per

ANALYSIS OF WASSERMANN TESTS BY RACE

	Per Cent.
Colored patients in hospital	23
Deaths among colored patients	33
Colored patients dead with positive Wassermann test	27
Colored patients living with positive Wassermann test	25
White patients in hospital	77
Deaths among white patients	67
White patients dead with positive Wassermann test	11
White patients living with positive Wassermann test	11

cent. of all the deaths during the two year period occurred among the colored patients. Analysis of the Wassermann tests, taken as a routine on all patients on admission to the sanatorium, showed that 13 per cent. of all patients living had positive blood Wassermann tests; 17 per cent. of all patients dying had had positive Wassermann tests. Figures of the Wassermann tests are analyzed by race in the accompanying tabulation. The higher death rate and the higher positive Wassermann test in the colored race are, of course, in conformity with general experience. In this series of 791 cases, the diagnosis of pulmonary syphilis was made in four (0.5 per cent.). Curiously enough, all four cases occurred in white patients, three men and one woman. The diagnosis of pulmonary syphilis was not made in any of the 182 colored patients.

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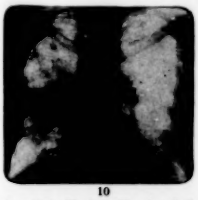

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Fig. 9 (Case 3).—Condition, May 3, 1920: Marked fibrosis of the entire right side, with the exception of the extreme base; knobby deposits at the left hilum; peribronchial thickening of the entire left lung field; typical syphilitic aortic shadow.
Fig. 10 (Case 3).—Condition, Nov. 14, 1921: Density on right side has decreased very markedly; Left lung also much clearer than it was; some fibrosis still evident on both sides.

The woman with pulmonary syphilis died; she had a combination of pulmonary tuberculosis and syphilis. The three men recovered, two under intensive antisyphilitic treatment, the third without such treatment.

In addition to these four cases, two other cases of pulmonary syphilis from the wards of the Cincinnati General Hospital are reported. One of these occurred in the service of Dr. M. A. Brown, the other in my own.

REPORT OF CASES

CASE 1.—B. K., a white man, aged 42, presented physical signs on admission confined to the upper part of the right lung. The sputum was persistently negative. The Wassermann test was positive on admission, May 10, 1920, and also in July, August and November. It was negative in January, 1921. Antisyphilitic treatment was begun shortly after admission in May, 1920. Twenty-four doses of neo-arsphenamin were administered in the course of ten months. The patient is in excellent condition at present.

CASE 2.—C. M., a white man, aged 58, admitted to the sanatorium, Sept. 11, 1920, presented physical signs rather atypical for tuberculosis. The sputum was repeatedly negative for tubercle bacilli. Complement fixation for tubercle bacilli was positive. The Wassermann test was positive on admission. The first dose of neo-arsphenamin was given, November 30. Between this date and Jan. 5, 1921, the patient was given five doses of neo-arsphenamin. The Wassermann test was negative in September, 1921. During the administration of the drug, definite cavity signs appeared in the upper right lobe. The temperature was irregular, varying from 97 to 102 F.

Fig. 11 (Case 4).—Condition, June 14, 1920; Bronchostenosis, with collapse of entire left lung indicative of syphilis; moderate peribronchial thickening on the right side.

CASE 3.—J. S., a white man, aged 62, presented physical signs which were not those of advanced tuberculosis, on admission, April 19, 1920; but the first roentgenograms taken, May 5, revealed very marked densities in the right lung field especially. On admission, the sputum showed tubercle bacilli, but repeated examinations thereafter were persistently negative, and have remained so. On admission, the Wassermann

test was positive. The patient was put on the ordinary sanatorium regimen. No antisyphilitic treatment was given.

CASE 4.—N. B., a white woman, aged 53, apparently presented the coexistence of advanced pulmonary tuberculosis and syphilis. The sputum was constantly positive, as also was the Wassermann test. The patient was given antisyphilitic treatment in addition to the regulation sanatorium regimen. She never showed any improvement, and the roentgenogram taken some time before death shows the peculiar involvement. Unfortunately, no necropsy could be obtained.

CASE 5.—J. R., a colored man, aged 49, was admitted to the Cincinnati General Hospital, June 29, 1918, with the diagnosis of cardiac hypertrophy and dilatation, aortic insufficiency, and syphilitic aortitis. The chest examination gave

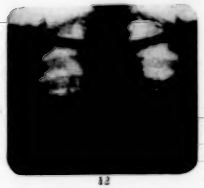

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Fig. 12 (Case 5).—Condition, July 5, 1918: Gumma of right middle lobe, extending outward from hilum area with marked peribronchial thickening and fibrosis; some knobby deposits in left hilum area; typical syphilitic aortic shadow; enlargement in all diameters of the heart; aortic configuration.

Fig. 13 (Case 5).—Condition, Aug. 8, 1918: Density over entire right side; shadow of gumma still present; the density on the right side is caused by thickening of bronchus with resulting collapse of the lung.

evidence of consolidation on the right side. The Wassermann test was positive. Despite rest, cardiac stimulation and vigorous antisyphilitic treatment, the patient continued to grow worse, and died seven weeks after admission. Roentgenograms were taken shortly after admission and shortly before death.

CASE 6.—J. B., a colored man, aged 44, was admitted to the medical service at the Cincinnati General Hospital, March 4, 1922, with the diagnosis of aortic insufficiency, mitral insufficiency, cardiac hypertrophy and dilatation, and syphilitic aortitis. In addition to the physical signs dependent on his cardiac condition, this patient showed areas of consolidation (on physical examination) in the right middle and left lower lobes. The Wassermann test was positive. The first roentgenograms taken confirmed the suspicion of pulmonary syphilis. In the last two months this patient has had ten injections of neo-arsphenamin in addition to treatment for the cardiac condition. At present the patient's general condition is improved, though during his stay in the hospital a right hydrothorax developed. But repeated roentgen-ray examinations have revealed that there has been no change in the chest condition as yet.

4 West Seventh Street—Seventh and Race Streets.

ABSTRACT OF DISCUSSION

DR. HARLOW BROOKS, New York: Dr. Friedlander has called attention to a condition which is rather more frequent than most of us realize. I never realized this until I became pathologist in a service consisting of tuberculous cases. Statistics do not give a good rating of this, because it is only when one gets 100 per cent. of necropsies that one can be reasonably sure of getting all cases. Of course, most cases usually occur in the tuberculous wards, not in the acute ones, but particularly among those cases which are termed incipient. Dr. Friedlander put special stress on the cases of bronchitis. One should bear that in mind, and when one has a chronic persistent case of bronchitis, try the therapeutic test, and, of course, the Wassermann test. We noted the frequent association of cardiovascular lesions with pulmonary lesions. When we found cardiovascular involvement, we looked, but frequently in vain, for pulmonary involvement. Sometimes we found it only at the necropsy. Only when a patient had been in the ward for some time and had been found negative, as far as tuberculosis is concerned, were our suspicions aroused. It takes a hardy diagnostician to make a diagnosis of syphilis of the lung on the first examination, although characteristic fluoroscopic and roentgen-ray pictures are shown. The fluoroscope has been of great benefit to us; and in fluoroscopic work on the lungs one should note how frequently the mediastinal nodes are involved in these cases, particularly about the hilum. Unresolved or delayed resolution in pneumonia is more often of syphilitic origin than we think. That is what excuses the treatment of delayed resolution by the iodids. We found that many of these delayed resolutions in pneumonia were specific and cleared up under the iodids. The greatest difficulty has been in the differentiation between neoplasms and syphilis of the lung. Usually considerable time must be given before one can do this, and one must resort to the therapeutic test.

DR. KENNON DUNHAM, Cincinnati: Dr. Friedlander has shown cases with abnormal densities on the roentgenogram and with a definite Wassermann reaction. The patients were treated for syphilis and recovered; others of the same type treated for syphilis did not recover; others of virtually the same type recovered without treatment. Until we know the pathologic picture of syphilis of the lung, we are going to be misled. Almost every clinician finds these changes, and many of them clear up. Some of the most brilliant cures are of this type. In cases showing mucous patches in the throat, localized râles will be found over the chest; but it seems to me that unless one can find the spirochete in that lung, it may lead one to false conclusions. I am not criticizing Dr. Friedlander, but I do not wish to convey the impression that the story of syphilis of the lung is closed by this study.

DR. W. S. THAYER, Baltimore: It is exceedingly difficult clinically to recognize syphilis of the lung positively intra vitam and very rare to find it postmortem when it has been recognized intra vitam. Our experience has been like that of Dr. Friedlander, a certain number of instances showing roentgen ray evidences of induration about the hilum of the lung associated with signs suggesting syphilis, clearing

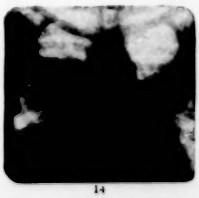

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Fig. 14 (Case 6).—Condition in March, 1922: Marked fibrosis of right middle lobe; moderate fibrosis of upper part of left lower lobe; some fibrosis at right base; heart configuration; cardiac hypertrophy and dilatation; double mitral and aortic configuration; increase in all diameters of aorta.

Fig. 15 (Case 6).—Condition in May, 1922: Only slight decrease in density of right middle lobe; increase in density at right base; fluid level; left side unchanged.

up under antisyphilitic treatment. Other instances—in our experience rather commoner—have been instances of syphilis of the bronchial tree or trachea with ulceration and stenotic changes. An example of what we meet clinically was a woman who came to the outpatient department complaining of cough and fever. She showed large serpiginous ulcers on the arms and abdomen and signs of infiltration on the upper part of the right lobe, and a rather scanty roentgen-ray shadow starting from the same area; the ulcers healed immediately under antisyphilitic treatment, and the shadow almost completely cleared up. You cannot prove that the changes in that lung may not have been the remains of an influenzal bronchopneumonia, but they may have been syphilitic.

OBSERVATIONS ON FRACTURES OF THE MANDIBLE*

ROBERT H. IVY, M.D, D.D.S.
PHILADELPHIA

Probably no fracture in the body is less understood or, as a general rule, worse treated than fracture of the mandible. The usual information given in surgical textbooks as to the practical management of these cases is vague, and consequently the surgeon, when confronted with a fractured lower jaw, is usually at a loss what to do. He either attempts to treat it with a head bandage, or passes the responsibility to a dentist with the request that a splint be made. Occasionally, and worst of all, he tries direct fixation of the fragments by plating or wiring. For these reasons, among others, it has been considered timely to report some observations made in thirty-one consecutive cases of fracture of the mandible recently under our care at the University of Pennsylvania.

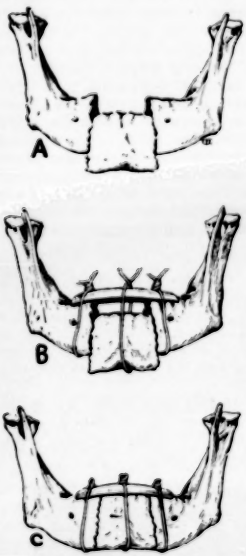

Fig. 1.—*A*, Bilateral fracture in edentulous mandible; *B*, circumferential wires and splint; *C*, circumferential wires tightened, bringing symphysis fragment up into position.

Of thirty-one cases, twenty-nine were in men and two in women.

LOCATION

The location of the fracture in eleven of the thirty-one cases, 35.5 per cent., was bilateral. One case presented two fractures on the same side. Thus, there were nineteen cases of single fracture and twelve of double, making a total of forty-three fractures in all. The location was: mental foramen region, sixteen, or 37.2 per cent.; angle, eleven, or 25.6 per cent.; incisor region, eight, or 18.6 per cent.; molar region, six, or 14 per cent.; neck of condyle, two, or 4.6 per cent.

In the majority of bilateral cases the fracture on one side is at or near the mental foramen, and on the other at or near the angle. The point of impact of the force producing the fractures is often midway between the two fractures. For example, if a blow is received to the right of the chin, there is quite likely to be one fracture at the right angle and the other to the left of the chin. Thus, fracture by indirect violence occurs just as frequently as by direct violence. In every case of fracture at or near the mental foramen, one should always look for another at the opposite angle. It will be found in about 60 per cent. of the cases. The more marked symptoms of the fracture near the mental foramen may cause the fracture at the opposite angle to be overlooked. It is surprising how often these injuries are undiagnosed.

RELATION OF TEETH TO THE FRACTURE

In this series, thirty-two fractures were in the vicinity of teeth. In only four of these were teeth in the line of fracture removed immediately. It was necessary sooner or later to remove such teeth in 50 per cent. of the cases. These teeth frequently are of great temporary value in maintaining reduction of fragments or as points of attachment for wires. This consideration, on the one hand, must be carefully weighed against the possibility of infection, on the other.

EXTERNAL DRAINAGE AND SEQUESTRUM FORMATION

Of thirty-one cases, seven, or 22.5 per cent., required external drainage on account of suppuration. The same number developed sequestrums requiring removal either intra-orally or extra-orally.

FIXATION OF FRACTURE

There is nothing original in the methods of treatment employed in this series. We have adapted well established methods as seemed best for the individual case.

Of thirty-one cases, in twenty-seven, or 87.1 per cent., fixation was secured by wiring the upper and lower teeth together.

One case, at the symphysis with practically no displacement, was treated by a simple metal cap splint.

In one edentulous case, fixation was secured by direct plating of bone fragments through external incision.

Two edentulous cases were treated by the vulcanite saddle splint combined with circumferential wiring of the bone.

Gilmer,[1] some years ago, pointed out the value of wiring the lower to the upper teeth in fixation of fractures of the mandible. The main object of employing any wiring method is avoidance of the difficulties and discomfort of impression taking and the delay in preparing interdental splints from these impressions. Other advantages of wiring are that there is no thickness of metal between the upper and the lower teeth, and the latter are not covered so that the state of the occlusion is under direct observation at all times; if, during the course of treatment, it becomes necessary to remove a tooth, this can be done with less disturbance when the fracture is fixed with wiring than if a splint be cemented to the teeth. Our records show that in the vast majority of fractures of the mandible occurring in civil life it is unnecessary to resort to impressions and interdental splints. We employ a modification of Dr. Gilmer's valuable prin-

Fig. 2.—Lower tray, with extra-oral wires.

* Read before the Section on Stomatology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Gilmer, T. L.: Arch. Dentistry, September, 1887.

ciple which permits, during the course of treatment, a ready opening of the mouth for replacement of a broken wire or for other reasons without disturbing the main attaching wires:

The wire employed is either 22 gage copper wire or 24 gage brass wire. In preparation of the wire to be attached to the teeth, a 6 inch length is folded around a smooth

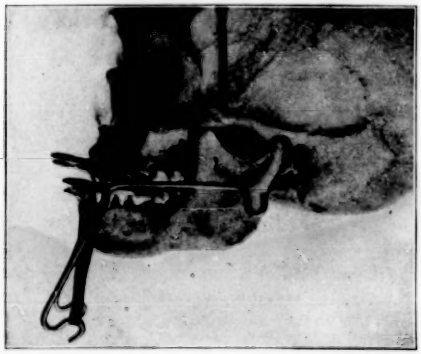

Fig. 3.—Lateral view of trismus appliance mounted on skull.

instrument, and a small loop or eyelet made at the middle of the strand. The teeth selected to be wired are usually the premolars on each side and the central incisors. If these teeth are absent or unsuitable for use as attachments, other teeth are selected. Both ends of the eyelet wire are passed through the interproximal space between two teeth, from the buccal side. These ends are then brought back to the buccal side by passing each around one of the teeth and twisted together so that the wires will fit snugly around the teeth with the eyelet projecting from the interproximal space. The ends of the wire are cut off short and bent over in order not to irritate the lip or cheek. A similar eyelet is fitted to corresponding teeth of the opposing jaw, and to other corresponding upper and lower teeth in other parts of the mouth. Then the upper and lower eyelets at each point are connected by passage through them of a third or tie wire, the teeth are brought up into occlusion by this means, and the tie wire ends twisted together, cut off short and turned in. Modifications necessitated by conditions encountered in individual cases have been pointed out in the paper referred to.[2]

EDENTULOUS CASES

In recent fractures the only possible indication for direct wiring or plating of the bone fragments through external incision is in an edentulous case in which there is no break in the mucous membrane and consequently the oral secretions do not have access to the fracture. In as small a bone as the mandible, it is difficult to secure firm fixation by this method.

CIRCUMFERENTIAL WIRING

A much better plan in edentulous cases is circumferential wiring of the bone, originally employed by G. V. Black.[3] A vulcanite splint is first made like a saddle, to cover the lower ridge on each side of the fracture. Or, if the patient has a full lower vulcanite denture, this may serve the purpose of a splint. A small incision is made through the skin at the lower border of one of the fragments, and a small curved antrum trocar and cannula are passed up through this incision close to the bone on the lingual side, until the mucous membrane of the mouth is pierced. The trocar is then removed, and one end of a 16 or 18 gage silver wire is threaded through the cannula from below. The cannula is withdrawn and, by means of the trocar, is passed downward from the mouth close to the bone, this time on the labial side, to emerge at the original skin opening. The other end of the silver wire is then passed up through the cannula, and the cannula is withdrawn. It is thus seen that the wire passes around the bone. The ends of the wire are now twisted over the vulcanite splint or denture so that the bone fragment is drawn up snugly in contact with the splint. Another wire is similarly passed around the other fragment and twisted over the splint. The circumferential wire is well tolerated, and may be maintained for several weeks, the skin incision frequently closing without suppuration. This method is particularly useful in drawing up and maintaining a central edentulous fragment in a case of double fracture (Fig. 1).

TIME REQUIRED FOR UNION

Textbooks state that fractures of the mandible unite in from three to five weeks. Our figures indicate that this time is considerably overestimated. In this series the average time required from the date of injury to the completion of union was forty-eight days, the longest being 109 days and the shortest twenty-one days.

The average number of days that fixation was maintained was forty. The average time elapsing from the date of injury to the date of fixation was eight days, the longest being seventy-two days.

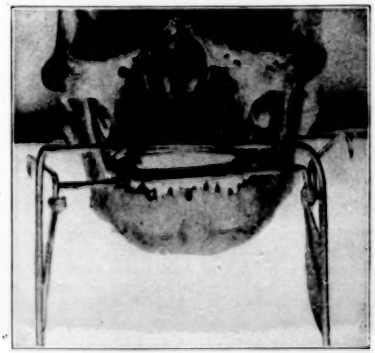

Fig. 4.—Front view of appliance.

It is difficult to prove by figures that early fixation will shorten treatment, because so many other factors must be considered, such as the amount of original displacement, injury to teeth, and infection. The same applies also to relative time of union as between single and double fractures. In our series, the average time for union after fixation for single fractures was thirty-seven days, and for double fractures 43.3 days.

2. Ivy, R. H.: Practical Method of Fixation in Fractures of the Mandible, Surg., Gynec. & Obst. 34:670 (May) 1922.
3. Blair, V. P.: Surgery and Diseases of the Mouth and Jaws, St. Louis, C. V. Mosby Company, 1918.

RESULTS OF TREATMENT

Results were satisfactory in all cases in this series. That is, firm union was obtained with restoration of the original occlusion of the teeth. When teeth were lost as the result of the injury or previously absent, the patients were discharged with the jaws in such a condition that artificial dentures could be satisfactorily applied.

TRISMUS

Trismus, or temporary limitation of the opening of the mouth, is a frequent complication of fractures of the mandible, owing to muscular contracture and infiltration with inflammatory exudate. This limitation will usually disappear in the course of time, following ordinary exercise, but it can be overcome much more rapidly by the use of a dilator which we have had made. This appliance is universal, i. e., it does not have to be made especially for the individual case; it is easily fitted in the mouth by the patient or some one in the house with him, and it is practically as stable as an apparatus that has been made from dental impressions of the individual. The construction is extremely simple, the two parts being flat metal trays passing between the occlusal surfaces of the upper and lower teeth (Fig. 2). The trays can be inserted through a space of less than 1 cm. between the upper and lower incisor teeth. To the outer sides of each tray are soldered heavy wires, which pass out of the mouth and curve backward over the cheeks like Kingsley splints. The wire attached to the upper tray on each side turns down at a right angle about opposite the premolar region, and ends in a hook about 3 inches lower down. The wire attached to the lower tray passes directly backward, and is provided with a hook at a point opposite the downward turn of the upper wire. The dilating force is a heavy elastic band placed between these hooks on each side (Figs. 3 and 4). This application of dilating force in the manner described is original with Darcissac [4] of Paris, who, however, made individual apparatus from impressions in each case, casting metal caps to fit the teeth. The elastics produce a constant counteraction to the powerful elevator muscles of the mandible, which at the same time are permitted to function, the upper and lower jaws being at no time fixed. Lateral movements as well as opening and closing are possible. The dilating force can be readily regulated by the size and tension of the elastic bands. This appliance is useful not only following fractures, but also in limitation following any other cause, or as an adjunct after operations for ankylosis. It can be worn for fifteen or twenty minutes every few hours, and can easily be taken out and put in.

4. Darcissac: Dental Cosmos, March, 1922.

Prevention of Delinquency.—The National Committee for Mental Hygiene, through a recent gift from the Commonwealth Fund, has been enabled to establish a new department to be known as the Division on the Prevention of Delinquency. This division will furnish psychiatric service to a limited number of juvenile courts throughout the country, free or on a cost-sharing basis when requested. The selection of courts will depend largely on the interest shown, and the prospects for the establishment of a permanent clinic at the expense of the community. A demonstration clinic, including a psychiatrist, a psychologist, and a psychiatric social worker will be assigned to each court to which it is possible to render such aid.—*Mental Hygiene*, January, 1922.

TREATMENT OF NONUNION OF FRACTURES OF MANDIBLE BY FREE AUTOGENOUS BONE-GRAFTS *

FULTON RISDON, M.D.
TORONTO

The indications for bone-grafting of the mandible are: nonunion of fragments of long standing; to replace lost bone due to gunshot wounds; carcinoma; infection, cysts, etc., provided enough of the ascending ramus is in situ or to protrude the mandible when the mental process is deficient.

The preliminary steps may be thus summarized: The patient is examined to ascertain that all infection has been cleared up for at least five months, and that there are no teeth adjacent to the ends of the fragments. The roots of the teeth are always a menace to the graft, and, unless they are removed, sufficient bulk of the graft cannot be inserted. If it is found necessary to remove any teeth in this area, the operation should be deferred for two months. Of course, there are exceptions to this rule, one being when only one tooth remains in the posterior fragment; but in this case greater care is taken at the time of the operation to see that the root area is not included in the bed for the graft. A consultation should now be had with one's dental colleague if not before, as to the desirability of the type of splints to be used, and as to the width of the desired arch of the mandible. A modified Hammond splint has been used by our colleagues Drs. Campbell and Gordon, with a pin and tube attachments for locking the lower to the upper jaw; and the metal of choice has been Victoria metal, supplied by Claudius Ash, Sons & Co., of London, England. Any metal which, after it has been cast, has still some temper and is strong, meets all the requirements. We have used coin silver with equally good results, but care should be taken in the casting that the baser metals are not lost. Should this occur, it is easily detected, as when the casting is pressed over the teeth the splints spread at the widest part of the teeth and do not grip at the cervical margin.

These splints are cemented with Ames copper cement four days previous to the operation, and the pins are inserted in the tubes on the second day.

The diet of the patient must, of course, be changed, and he is placed on a semisolid diet, including soups, mashed potatoes, minced meats, egg-nogs, junkets, etc., and one bottle of stout a day. These patients do not lose weight but, of course, are not working.

The right or left hip is prepared by the nurse the day before, as the bone selected by us is always taken from the crest of the ilium. We have used the rib with success, and also the tibia, but prefer the ilium for the reasons that it is very easily and quickly obtained; it is more cancellous than either of the bones named above, and greater bulk of bone can be obtained. We assume to a large extent that the theory of absorption of the entire graft and its replacement later by bone-forming elements, as outlined by Gallie and Robertson, is the accepted theory of bone regeneration. If we accept this, the more cancellous the selected bone is, con-

* In this work Dr. Carl Waldron, now of Minneapolis, was associated with the author.

* Read before the Section on Stomatology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

sistent with its strength, the greater proportion of successes should follow its use, and this we have found to be a fact in actual practice.

The type of anesthesia employed is of considerable importance, as the anesthetist must at all times after induction be some distance away from the field of operation. We prefer the intratracheal, in which a catheter is passed under direct vision between the cords into the trachea, and the anesthetic given by a machine, such as the Connell. We have also used rectal anesthesia, but discarded it after seeing the advantages of the intratracheal method. Anesthesia is induced much more rapidly, and the patient recovers more quickly and is more under the control of the anesthetist. We have not attempted any operations under local anesthesia, although we know it could be used, but we feel that this is too important an operation for that type of anesthesia, as the patient might interfere at any moment.

The technic of the operation is most exacting, and in no other field of surgery is it more so. I believe that the entire success of the operation, having previously excluded infection, depends on this most exacting, tedious, excellent technic.

The first step must exclude the mouth, and this is done by placing a sterile piece of rubber dam parallel with the lower border of the mandible, some distance from the line of the incision, and held in position by adhesive tape. When this is turned back it covers the mouth and prevents moisture from soaking through the towels. The neck is now cleansed with pure alcohol, continued for fifteen minutes. After the incision has been made, as a rule about 4 or 5 inches long, the scalpel is discarded for another and the wound completely walled off by towels with clips. Under no circumstances is the gloved hand permitted to come in contact with the wound, sutures or sponges. This is all done by freshly sterilized instruments, even to the tying of ligatures. This is known as the nontouch technic or bone-technic, introduced by Sir Arbuthnot Lane. We had the privilege of very close association with him during the war, and we feel deeply indebted to him for his kindness and patience in teaching us his methods.

The hip area is prepared in the operating room again, with alcohol, the same technic being observed, and the bone is obtained by a chisel and a mallet. We discarded the electric saw, because we felt that it burned the bone owing to the rapid revolutions of the small circular saws, and in this way destroyed the bone-forming elements. If water was used to overcome the resultant heating, moisture gained access to our wound and soiled our towels. We prefer bone rongeurs, hand drills and the more laborious methods, as they have given better results in our hands. We prefer a square butt joint if possible, and use Belgium iron wire to hold the graft in position. These wires are not removed, and no drainage is placed in the neck wound but is inserted in the hip area. The wound is closed with metal clips rather than sutures, and the splints left in the mouth for three months.

In our clinic seventy operations were performed, resulting in sixty-six successful bone-grafts, four failures, and no deaths, an average of 90 per cent. of successes. In the last two years we have done twenty-one, with one failure, and that failure was due to an opening into the mouth at the time of the operation.

30 Avenue Road.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. IVY AND RISDON

DR. CARL W. WALDRON, Minneapolis.—Dr. Ivy has presented a practical means of treating most of the simple fractures of the mandible; I think he has largely overcome the difficulty many had in the method of wiring the teeth. In our war work the splint which Dr. Risdon has shown served admirably but in civil practice on account of the lack of trained technicians, I feel that Dr. Ivy's methods are better. With reference to his views that certain teeth must be temporarily retained, to prevent loss of a fragment, I cannot agree. We followed that practice in our Canadian service for years. The British service was radical. We saw later many nonunions in which we felt that we would have secured good strong union with our methods. With reference to bone grafting, I agree with Dr. Risdon that the iliac crest is preferable. Before I left England I saw some 100 bone grafts of the mandible clinically. Many had splints in place which did not prevent manipulation. I was convinced those cases treated by iliac crest grafts were by far the most successful grafts. The graft advocated by the Frenchmen has certainly a place, particularly where there are thin fragments without a basis for an iliac crest graft; in such cases I feel that the osteoperiosteum graft has a place.

DR. WILLIAM S. BAINBRIDGE, New York: In the navy we have not had as good results as we hoped we might have with bone grafts. I think it is due largely to the lack of technic and perhaps the finesse of key working which was so important. Troops from India were fed on their own food to which they were accustomed because of religious belief. Some of the British surgeons called my attention to a lamentable failure of healing wounds and bone repair in certain regiments. Those that had poor teeth, mouth conditions bad, poor healing and repair of bones, far more nonunion and much pain were from the same part of India. The British surgeons in charge of the men discerned that there was only one reason why this regiment suffered. They had not brought from India the olive sticks the natives use for the cleaning of the teeth. They were provided with ordinary tooth brushes which they would not use. When however, the mouths were cleaned up and the men furnished with olive sticks, their conditions improved and when bone was transplanted and bone repair inspected, conditions were found improved.

DR. F. B. MOOREHEAD, Chicago: Success in bone graft surgery is due to certain fundamental principles; the nontouch method developed by Lane, and quite equal in importance, is the securing of a perfectly well healed field; one quite free from infection. Nothing should be allowed to touch the wound except a sterile instrument; the fingers should be kept out entirely. After watching Dr. Risdon's work, I am quite converted to the use of the crest of the ilium as better material for transplanting purposes than either the rib or the tibia.

DR. T. L. GILMER, Chicago: Dr. Ivy has been good enough to refer to what he calls my method of wiring the teeth of the mandible to those of the maxilla in the treatment of fracture of the mandible. For the last eight or ten years I have abandoned the method he credits me with, except for temporary purposes. The method of wiring I now usually employ has an advantage over the older method and I think over Dr. Ivy's method. It consists of wiring an expansion bar such as is used by orthodontists to the buccal and labial surfaces of the teeth of the mandible and maxilla. These bars are wired together by two or three small wires. By this method one is able to cut the wires, holding the teeth in occlusion, every few days, so that the mouth may be opened for cleansing. This is done without danger of displacement of the fragments of bone, since the expansion bar holds the teeth in alinement. Fractures of the mandible occasionally occur without completely severing the periosteum and in such cases the fragments are not displaced. If the patient does not use the jaw for mastication he will be better off

without immobilization. The treatment of ununited fractures by bone grafts is often good practice. In a few instances when other methods have failed I have employed the Cole pedicle graft with excellent results.

DR. FRANK J. TAINTER, St. Louis: During the war I was connected with several clinics in which we had to treat a number of fractures of the mandible with loss of substances. They were all repaired by bone grafting, the ileum graft, the rib and the pedicle graft. I happen to be connected with Dr. Cole who first described the Cole's pedicle graft. In the treatment of fractures there are a few principles that should always be taken into consideration, first, absolute reduction, and second, immobilization. No matter where you take the bone, if the fragments are not properly immobilized you cannot expect a good result following a bone graft. The type of fractures we had the most difficulties with were those that left the posterior fragment with no teeth on it. We feel that the graft from the ileum lent itself better to the curves and to what was expected of it than any other bone taken from any other place, but our results from the pedicle graft were far better than from any free graft. The pedicle graft has a good blood supply, nearly always carries with it small muscle, and even in the face of infection one may secure perfect results. I am quite sure the pedicle graft described was not Cole's pedicle graft; Cole always insisted that whenever any bone was splinted all the bone that could be exposed should be opened up and freshened and the bone graft put in. I wish to speak of the splint shown by Dr. Ivy, a most ingenious thing for the correction of trismus of the jaw. I think it the most perfect mechanical appliance on the market. Ruggles suggested the use of a clothes pin for the same purpose and we have been successful with it. In our clinic work we never had trismus following our cases.

DR. THEODORE BLUM, New York: I have been using the so-called army method for correction of fractures of the mandible since 1916, when I first saw it demonstrated by Lieutenant Graham of the U. S. Army in Belmont. The only slight improvement which I would like to suggest to Dr. Ivy's method would be that the wire should not be turned at the height or convexity of the tooth but that the wire should be placed at the interproximal space and it would then be covered by the loops.

DR. ROBERT H. IVY, Philadelphia: I have never found it necessary in any operation involving the face, mouth or jaws to use intratracheal anesthesia. For these cases I employ intrapharyngeal ether introduced through nasal tubes. With this method it is not necessary to disturb the intermaxillary fixation, and the mouth can be kept closed. The use of wire for the fixation of bone grafts has been condemned by some authorities, but in my experience silver wire gives the greatest satisfaction and much better approximation can be obtained by twisting the wire than by using any animal suture material. For the general run of cases the ilium graft is superior to any other type. Other methods are indicated in special cases. The pedicle graft has the advantage that it can be used with greater chance of success in the presence of infection. My chief reason for employing the method of wiring the teeth in ordinary civil life fractures of the mandible is to get away from the bother of taking impressions and making splints. The wiring does not necessarily fix the fracture any better than a properly made interdental splint. Splints do just as well, perhaps better, when there is an organized staff to make them, but it is difficult to get the work done under ordinary conditions. I am quite familiar with the present method used by Dr. Gilmer for fixation of fractures of the mandible, and admit its efficiency. My idea is to simplify matters as much as possible so that the average surgeon can handle these cases without having to resort to special apparatus or special men to make it.

DR. FULTON RISDON, Toronto: I have used the ordinary eye that is used for ladies' dresses, wiring it around each tooth on both sides of the fracture, doing the same to the teeth in the upper jaw in the region of the fracture and attaching the eyes together with silk rather than wire. In handling a large number of these cases we found silk of much more service than the wire, because in our hands it did not loosen so quickly. There is really nothing to this little appliance, but it has helped me with some cases. In reference to the anesthetic for bone grafting, we prefer the intratracheal method. In using this a catheter is placed between the cords and out between the lips, as in most of these cases some teeth are missing. Under no circumstances do we use an open-bite splint. The interesting feature of this anesthesia is that one does not have pneumonia as a complication, at least that is our experience.

Clinical Notes, Suggestions, and New Instruments

CARPOMETACARPAL DISLOCATION

EDWARD H. MCLEAN, M.D., OREGON CITY, ORE.

Cases of multiple dislocations at the carpometacarpal articulation are of sufficiently rare occurrence to warrant their being recorded for statistical reasons.

Fig. 1.—Carpometacarpal dislocation: lateral view before reduction.

A farmer, aged 40, was injured while pulling stumps. He was using a puller in which a 14 foot pole acted as a lever. The chain by which two heavy farm horses were hitched to the pole parted, releasing the pole, which struck the patient on the back of the right hand, right forearm, and right lower thorax. He was thrown violently to the ground, striking on the left hand with the arm outstretched.

The injuries sustained consisted of fractures of several ribs on the right side, of the left clavicle, and of the right ulna, laceration of muscles of the right forearm, laceration and contusion of the right hand, and the dislocation to be described, occurring in the right hand.

On account of the marked swelling of the hand, the condition was not suspected until after about a week of local treatment. At this time, an unusual thickening of the wrist and hand, with apparent shortening of the metacarpus, was noted. Examination by roentgen ray revealed a posterior dislocation of the four inner metacarpals on the carpus with about an inch of overriding, anterior dislocation of the thumb metacarpal, with an inch of overriding, and fracture of the base of the index metacarpal.

Reduction was easily accomplished by traction and direct pressure. The presence of fragments of the base of the index metacarpal between it and the base of the middle finger prevented complete reduction of the former.

Two years after injury, the patient has a hand that is nearly normal functionally. He is unable to close the index finger completely to make a tight fist, but he can milk and do other farm work requiring the use of the finger. Excision

Fig. 2.—Carpometacarpal dislocation: anteroposterior view after reduction.

of the fragments of the base of the index metacarpal would have given a better result, but the patient was unwilling to submit to operation.

DIRECT VISION ADENOTOME

I. D. Kelley, Jr., M.D., St. Louis

Working on the assumption that the existing method of adenoid removal with the instruments thus far devised is

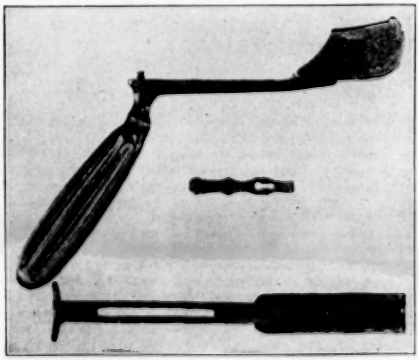

Fig. 1.—Parts of direct vision adenotome.

unsurgical, because of the fact that to carry out this operation the operative field has not been in the direct line of vision of the operator, I investigated thoroughly the postnasal space. I found it possible to construct an instrument that would not only remove the adenoid as completely as any instrument thus far devised, but also bring the adenoid area in direct vision of the operator previous to and at the time of removal, and do away with the untoward results in previously devised operations, such as blind technic, stripping of the posterior pharyngeal wall, partial adenoid removal, and loss of the removed adenoid.

The principles which this instrument employs are (1) elevation of the soft palate by the oral route sufficient to expose to view the circumference of the posterior nasopharyngeal wall, and (2) a cutting blade adhering to the curvature of this wall, working from below upward, incising the adenoid from its nasopharyngeal attachment.

The instrument consists, as seen by the accompanying illustrations, of a hood or soft palate retractor, the distal or blade end of which, when put into position, conforms to and rests directly against the postnasopharyngeal wall. This is attached to a steel shank, from the proximal end of which extends a hand grip at such an angle as to prevent chin or chest interference when gripped and placed in position. On the upper surface of this shank is placed a steel shaft, to which is attached at its proximal end a thumb pressure plate, and to its distal end by means of an eye and post a flexible steel blade running in two slots on either side of the distal end of the hood, traversing the surface from below upward and held in position on the shank by a steel clamp.

The instrument is to be used in conjunction with either indirect illumination (as seen in the illustrations) or direct illumination, when so desired, by placing a small electric

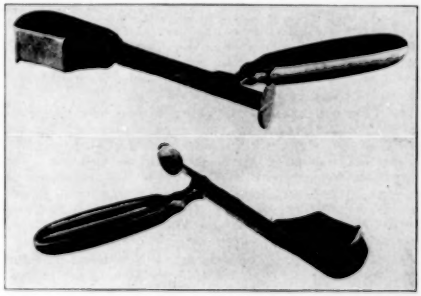

Fig. 2.—Two views of instrument assembled.

lamp in the upper inner surface of the hood, carrying the wiring along the under surface of the shank and out through the end of the handle.

TECHNIC FOR USING THE INSTRUMENT

Under local or general anesthesia, the mouth is widely opened with a gag and the instrument introduced through the oral cavity under the lower border of the soft palate. The distal end of the instrument is then elevated behind the soft palate until the upper surface of the hood assumes a plane corresponding to the angle of the vault of the nasopharynx with the posterior wall. It is then gently pushed into approximation with the posterior wall, whereupon the adenoid will be in full vision of the operator. In this position, by means of the thumb plate, the blade is pushed home, the instrument removed, and, inside the hood, producing when the blade is closed a cup, will be the adenoid, severed from its postnasal attachment.

The instrument is to be made in several sizes corresponding to the dimensions of the nasopharyngeal space in persons of varying ages.

608 Humboldt Building.

State Aid for Crippled Children.—Backed by 460 rotary clubs in Ohio, legislation has been enacted providing first for treatment of all crippled children at state expense, and secondly for the establishment of special schools and classes for crippled children, the state allowing $300 per child.

FOLDING SPHYGMOMANOMETER

PHILIP A. SHEAFF, M.D., PHILADELPHIA

The apparatus here illustrated is simple, dependable and readily portable. The scale registers from 0 to 300 mm. The apparatus is susceptible of refined adjustment and has the upper half of the glass tubing permanently attached. It folds up, having no rubber washer to get lost or wear out, the joint being a ground one composed of steel automatically closing the exit of mercury when not in use. Consideration of varying capillarity in the surfaces of the mercury is eliminated, as the two surfaces are the same diameter.

Folding sphygmomanometer.

CONVENIENCE

The apparatus can be readily carried in a coat or hip pocket, and when it is not in use it may be maintained in the upright position in any book case, although it may be placed in the recumbent position without disaster, if one is careful.

When closed, it is held shut by a spring lock, and measures 1⅝ by 2⁹⁄₁₆ by 8¾ inches.

The instrument here illustrated and described is home made, but for practical service has given me much satisfaction.

4006 Baring Street.

HEAD REST FOR GANGLION OPERATION*

ALFRED W. ADSON, M.D., AND GEORGE G. LITTLE, M.E., ROCHESTER, MINN.

A head rest for use in a ganglion operation should be easily adjusted and applied to the head, and at the same time hold the head firmly during the operation without producing undue pressure on any particular part of the head. Such a head rest (Figs. 1 and 2) has been developed and used satisfactorily in many ganglion operations. The head rest may be slipped on a Balfour operating table, but if the distance between the bar arms is varied (*M*, Fig. 1) it will fit any operating table; it is adjusted with two universal joints so that the head can be raised, lowered, or tilted from side to side as the surgeon desires. It is especially designed to support the patient's head, gently yet securely, during a ganglion operation in such a manner that the field of operation is wholly unobstructed.

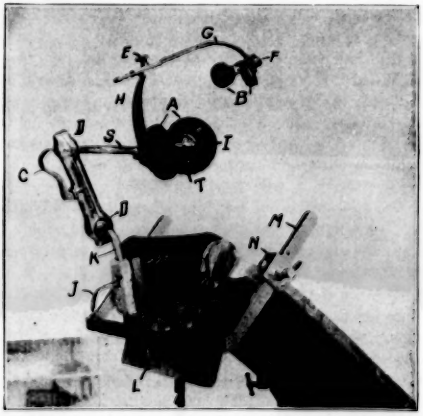

Fig. 1.—Ganglion head rest attached to a Balfour table.

In Figure 1 the two pads *A* are secured to a common cross bar and swivel on their respective centers, *T*, while the bar is supported at the ends by pins *I*; this allows the head piece a free swinging movement at *I* while holding the head securely. Arm *H* is secured rigidly to the cross bar, and supports the adjustable arm *G*, which is locked in position by screw *E*. The two front pads *B* are supported on short adjustable arms and locked in position by screw *F*. The forked arm *S* and the arm *K* have ball terminals fitted into sockets *D* and *D*, and are locked by movement of the handle *C*. The handle *J* locks the arm and block *K* in position on the slide *L*. Slide *L* is adjustable along bar *M*, which in turn is secured to and locked in position on the side bar of the table by block *N*.

Fig. 2.—Patient in position with head securely supported.

Figure 2 shows the patient in position with the head securely supported. The instrument tray and stand, attached to the side of the Balfour table, are adjusted to hold the towels away from the patient's face, and to leave ample room for the anesthetist.

* From the Section on Neurologic Surgery and the Surgical Instrument Shop, Mayo Clinic.

Nutrition Classes in Rochester a Success.—According to a report recently made public by Dr. Herman J. Norton, the nutrition class in the Rochester public schools has accomplished excellent results. All the nutrition classes gained better than an average of 285 per cent. of the normal rate of gain. The average normal gain of a boy or girl in grades three to eight, inclusive, ranges from one-half to three-fourths pound (0.23 to 0.34 kg.) per month; in the nutrition classes it was not unusual for the children to gain from 2 to 3 pounds (0.9 to 1.3 kg.) in weight in thirty days. These classes were run on the plan devised by Dr. Emerson of Boston. Enough nutrition classes have been established in Rochester to care for 7,000 children. A half-pint bottle of milk a day was provided for all children who were 4 per cent. or more below average weight for height and who were unable to buy milk themselves. The report states that this milk was an important feature of the work.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JULY 22, 1922

WHY DOES THE TUBERCULOSIS DEATH RATE FALL SO RAPIDLY?

It is well known to sanitarians, says Haven Emerson, that the death rate from tuberculosis in the United States, in Great Britain and in Germany had been falling in a fairly uniform manner from a time earlier than Koch's discovery of the tubercle bacillus till the outbreak of the World War. This has made some thoughtful persons doubt the assertions of public and private health agencies that reduction of tuberculosis has been largely due to, or at least has been very materially increased by, the campaigns of education and enforcement of early diagnosis, notification, early treatment, segregation, pasteurization of milk, infant welfare, and correction of malnutrition. The effect of these various influences has been analyzed in detail by a recent writer.[1]

Some evidence has been published tending to show that where the education and the organization of a community to prevent tuberculosis have been thorough, and where the conditions of housing, industry and economic independence have been favorable, the death rates from all forms of tuberculosis have fallen more rapidly than they have elsewhere, even taking into consideration all factors of age, sex and race composition of the communities concerned. This applies more particularly to the large populations of the United States, Great Britain and Germany. In France, in contrast, there has been not only a high tuberculosis death rate, but a rate which remained at a fairly uniform level over a long period up to the outbreak of the war. In France, however, the tuberculosis death rate has fallen considerably in Paris, from 437 in 1887 to 328 in 1914, so that the stationary death rate for France depends on the absence of any fall at all in the small communities of that country, presumably because conditions of life and sanitation have remained relatively unaltered.

Since 1914, in the United States and in New York City, there has been so great an increase in the rate of decline in the number of deaths from tuberculosis that it is important for us to consider what have been the dominant factors of the many possible causes of such a phenomenon. It is at once obvious that if these factors can be brought under control and duplicated elsewhere or their action made continuous or permanent, we can foresee the eradication of tuberculosis as a disease of importance within the next twenty years in this country; and, again, that while there are not only great suffering and formidable losses from the disease, and the public is spending large sums to protect itself and deal generously with those already attacked, it is the special duty of public and private agencies engaged in combating the disease to take account of their claims, their methods and their demonstrable accomplishments and, perhaps in the process, to develop a change in their point of view and acquire a new sense of proportion and perspective in pushing their present advantage against tuberculosis. In the last fifty years there has been a fall of 77.9 per cent. in the tuberculosis death rate in New York City; in the last eleven years, a fall of 51 per cent., and in the calendar year of 1921, a fall of 18.1 per cent.

Of all the factors involved in this beneficent change, Haven Emerson [1] seems inclined to lay most stress on the improved financial and living conditions of the poor, including, with this, decreased alcoholism and the lessened expenditure for alcohol. He says that it is probably not too much to say that in the next twenty-five years as great a percentage of reduction in tuberculosis can be attained as has been accomplished in the last fifty years, by adding to our methods and resources those which will build up bodily resistance by providing for and following a higher standard of living, and those which will diminish the hazards of occupation and of occupancy.

The influenza epidemic, paradoxical as this may seem, has had undoubtedly a considerable influence in reducing recent tuberculosis mortality as shown by vital statistics, since deaths occurred because of influenza, which masked or at least permitted a preexisting pulmonary tuberculosis to go undiscovered, with the result that many who would have died of pulmonary tuberculosis within the last four years, and would have been reported as dying from tuberculosis, died of influenza without record of the simultaneous tuberculous involvement.

A factor of much significance in the vital statistics of large cities, and especially in New York, is the racial change in our population due to unrestricted immigration of the Jewish people, especially from Germany, Russia and Poland up to 1914, and the limitation of all immigration since that date and more particularly since 1917. The Jews have notoriously a much lower tuberculosis death rate than most other people, especially the Irish, Scandinavians and Italians, whom they have largely replaced among the immigrants of recent years.

Another factor not emphasized by Emerson, but which some other epidemiologists might stress, is the

1. Emerson, Haven: Am. Rev. Tubere. 6:282 (June) 1922.

fact that our growing concentration of population has led to more universal exposure of the young to tuberculosis under favorable conditions for resistance, whereby they acquire a greater or less degree of immunity to subsequent fatal reinfection. Furthermore, we cannot disregard the possibility, even though it has not yet been firmly established as a fact, that the survival of several generations exposed to tuberculosis confers at least some increased capacity to overcome the disease. To what else can we attribute the racial resistance of the Jews to tuberculosis after generations of life in crowded, unhygienic conditions?

It will be noted that these favorable factors were not developed with the object of reducing tuberculosis, but rather they are merely social and economic events of a character to cause a reduction of the disease, which always reflects in its prevalence the great movements of races, changes in wealth and in industry, and pandemics of other diseases. Hence it becomes extremely difficult to estimate the influence that has been exerted in pushing down the tuberculosis death rate by the purposeful efforts that have been made so vigorously in this country. It would be of the greatest importance to know just what the effect has been of notification, segregation, hospitalization, and the host of sanitary measures and educational campaigns that have been introduced; but their influence on the falling mortality curve cannot be picked out and measured specifically. Emerson holds that it is possible to see the effect of improving milk supplies by pasteurization, for since this has been enforced in New York, there has been a notable change in the rate of reduction of the nonpulmonary forms of tuberculosis in this city. In 1914 the rate was 27, in 1921 it was 14 per hundred thousand. That much of the lymphatic, bone and joint tuberculosis has been of bovine origin is admitted, and as a specific instance of the change since the general pasteurization of 98 per cent. of all our city milk supply, instead of finding 64 per cent. of a series of 100 cases of tuberculous adenitis to be of bovine origin, as was the case in 1912-1913, only 16 per cent. of a series from the same hospital source were found to be of bovine origin in 1917 by Dr. W. H. Park. Whether or not adult pulmonary tuberculosis has been affected by reduction of the tubercle bacillus content of milk, the reduction of milk-borne bovine lymphatic tuberculosis of children is an accomplishment of great and lasting importance.

In the absence of any possible way of estimating the value of each of the many other factors that have so wonderfully reduced the menace of tuberculosis, we can scarcely discard any of them that may reasonably be considered to play a part in the total result. Medical, sociological and industrial betterments must continue their parallel progress in the future, since together they have accomplished one of the most remarkable advances yet made in human welfare.

THE TRUE STATUS OF ENDOCRINOLOGY

The symposium on so-called internal secretions, and the various facts, problems and hypotheses often discussed under the name of endocrinology, at the St. Louis session of the American Medical Association,[1] cannot fail to have a wholesome, stabilizing influence on the medical profession. It is high time that physicians, to quote one of the authors, should have their feet on the ground when they attempt to enter domains where so few paths have been cleared, and where the directions for advancing to undiscovered goals are so largely the figments of unrestrained imagination. Professor Carlson of Chicago, in particular, has attempted with commendable frankness and fervor to dissociate fact from fiction in the entangled claims about the ductless glands. He deserves serious attention when he says that we cannot practice quack methods and escape the just censure of society. This dictum is correct if, as Carlson firmly believes, much of the glandular therapy of today, however harmless to the patient, injures the good name of the medical profession with intelligent laymen.

It is beyond the scope of these editorial columns to review the varied claims that have been made for the rôles of the "principal endocrine organs"—the thyroid, the parathyroids, the thymus, the lymph glands, the suprarenal glands, the gonads, the pituitary, the pineal, the insular tissue of the pancreas (islands of Langerhans), with the added possibility conjectured by Barker [1] that other organs, as the spleen, the kidneys, the liver, the salivary glands and the prostate, also perform endocrine functions in addition to their other physiologic activities. The outstanding facts are that extirpation experiments on healthy animals have shown the loss of a few of these organs or tissues to be followed by unmistakable symptoms of abnormality. Disease may bring about similar lack of function in the case of some of the structures referred to; and it is highly probable that corresponding glandular hypofunctions in man will induce similar disease syndromes. Latterly there has been a marked tendency to conceive of function in the case of the ductless glands on the basis of hormone production; that is, specific substances are produced by the structures under consideration, and, being carried to remote cells through the circulatory mechanisms, influence these parts as excitants or depressants, promoting or retarding their usual performance. It is still possible, however, to interpret the symptoms produced by the extirpation of the ductless glands on the detoxication theory which formerly was foremost in the discussions in this field. Thus, the products of the endocrine structures are supposed to perform the task of neutralizing

1. Barker, L. F.: Endocrinology, J. A. M. A. **79**:89 (July 8) 1922. Cannon, W. B.: Some Conditions Controlling Internal Secretion, p. 92. Aub, J. C.: The Relation of the Internal Secretions to Metabolism, p. 95. Carlson, A. J.: Hypofunction and Hyperfunction of the Ductless Glands, p. 98. Hoskins, R. G: Some Principles of Endocrinology Applicable to Organotherapy, p. 104.

poison and substances of endogenous or intestinal origin circulating in the body. It is by no means easy to distinguish between the effect of a detoxicant and that of a "regulator."

The hormone theory of internal secretion has received a great impetus from the discovery that the extracts of certain tissues, and subsequently that chemical substances identified in them, exert pronounced physiologic effects on the organism. The action of epinephrin and thyroxin are the classic illustrations. It was a natural conjecture, though by no means a logical deduction, that the potent suprarenal constituent is in truth a secretory product which is discharged from the glands into the blood stream in order to accomplish in the physiologic economy in every-day life what the laboratory investigator has demonstrated that the isolated product can do. The evidence, however, is far from substantiating this. At any rate, the hypothesis that blood pressure is ordinarily sustained by suprarenal secretion and that disturbances of the latter condition pathologic variations in arterial tension is being abandoned. At most it is asserted, though even this is debated vigorously, that the suprarenal output of epinephrin represents an acute emergency response in times of physiologic stress. This is far from saying that epinephrin is an indispensable hormone and that the essence of suprarenal function lies in secreting it. It has been demonstrated that an amount of epinephrin required to cause a rise of blood pressure is sufficient to stop all motions of the stomach and intestines.[2] "A ridiculous mechanism it would be," says Cannon,[1] "that would stop digestion in order to provide a few extra millimeters of arterial tension! There is no satisfactory evidence that in natural, quiet existence, the suprarenal medulla gives off any secretion whatever."

It is a fundament of much of the current endocrine theory that the hormones produced, the internal secretions, the "incretions," as they have lately been designated, may act on distant cells in a modifying way, either directly through transport in the blood to them, or indirectly through intermediation of the nervous system. Yet it is well to remember that no chemical methods are at present available by which we can demonstrate the presence of admitted hormones and their quantitative variations in the blood and tissues, or even in the glands themselves. Epinephrin can be estimated; but who will say that it is a true internal secretory hormone? Iodin can be determined in the blood and thyroid; but is this element an index of all that the thyroid is assumed to accomplish, and is all iodin present as thyroxin? Little wonder, then, that we have been admonished that "no single phase of endocrine dysfunction is satisfactorily worked out today, either clinically or experimentally." It affords little help to hear that endocrinology has "arrived." Progress in endocrinology can at best come only slowly, and, to quote Rowntree,[3] through correlated, adequately controlled investigations in which the findings are subjected to interpretations based on analytic and critical judgment. Endocrinology needs a leadership willing to admit the magnitude of its shortcomings. Its real contributions will then become more evident.

2. Hoskins, R. G., and McClure, C. W.: The Adrenal Glands and Blood Pressure, Arch. Int. Med. 10: 343 (Oct.) 1912.

3. Rowntree, L. G.: Abstract of Discussion, J. A. M. A. 79: 107 (July 8) 1922.

SMALLPOX

Like a volcano which rumbles and smokes long before it explodes, smallpox gives the world a timely warning. Within the last five years, local epidemics have occurred in Scotland, Germany, France, Spain, Australia, Burmah, the Philippines, Mexico, Brazil, Argentina, Chile, Costa Rica, Santo Domingo, Canada, and in several of our own states, in one of which an epidemic exists at present. There is evidence in these outbreaks to indicate that smallpox is becoming more virulent as well as more common. The mortality rate in some instances has been as high as 40 per cent. The number of cases in 1921 in ninety-three American cities was reported by the Metropolitan Life Insurance Company to be 138 per cent. greater than in 1920, and the number of deaths in proportion to the number of cases, six times greater. A contagious disease so virulent cannot be taken lightly, however restricted the area in which it prevails.

The history of the disease in the prevaccination epoch shows that long periods of quiescence are followed by virulent epidemics. The intervals are characterized by less virulent, sporadic cases, or by a mild type of the disease, such as has prevailed in the United States for about twenty years. Susceptible material gradually accumulates during these years, chiefly from the large number of children that grow up unvaccinated. By processes as yet not well understood, the virulence of the disease increases again, outbreaks become epidemics, and smallpox once more stalks abroad as "Captain of the Men of Death." In the eighteenth century, only one person in twenty-five in England escaped the disease. It was constantly present in London, where the deaths at times numbered from 3,000 to 15,000 yearly. In the same century, Boston had seven severe epidemics. With a population in 1721 of 11,000, Boston had more than 6,000 cases of smallpox and 850 deaths, a mortality rate of 77 per thousand. To understand what that rate means, one should compare the epidemic of influenza of 1918, which caused only 8 deaths per thousand, about an eighth or a ninth of Boston's mortality rate from smallpox in 1721. In recent years, few large cities have suffered more than Philadelphia where, within the thirty-three years ending in 1904, three epidemics occurred, with more than 30,000 cases and 7,600 deaths. In this day of rapid intercommunication, it is well to recall that smallpox was intro-

duced into Montreal in 1885 by an unvaccinated Pullman car porter, causing 15,000 cases and 3,164 deaths.

Indifference to the disease and prejudice against the chief means of prevention make the present situation more serious. A long period of comparative immunity has made people careless regarding vaccination; and some physicians have become careless and have failed to urge vaccination on their patients. To make matters worse, a vicious propaganda has misled many people to oppose vaccination openly. Thus the percentage of the population that is unprotected has grown and, unless conditions in this regard improve, outbreaks of smallpox may be expected. To encourage vaccination at this particular time is to do a public service.

IS GERMAN DOMINATION OF DRUGS AGAIN IMMINENT?

Previous to 1914, the large proportion of the synthetic chemicals and drugs employed by American chemists and physicians was supplied by German chemical interests. So slight, indeed, had been the sporadic attempts to create an American organic chemical industry that it was not even necessary for German importers to carry large stocks of necessary drugs. Shortly after the outbreak of the war, serious shortages occurred, and the prices of imported drugs in America rose precipitously. Arsphenamin—then known only under the proprietary name "salvarsan"—sold at fabulous prices, and many were deprived of this spirocheticidal agent. So commercially important was the drug that it composed a large portion of the cargo of the *Deutschland* on its historic voyage. During the period of necessity, THE JOURNAL repeatedly urged editorially that the patents on this drug be abrogated. Concomitantly a shortage of dyes—interdependents of drugs—had occurred.

In 1917, after war between the United States and Germany had been declared, Congress passed the "Trading-with-the-Enemy Act," which provided that German-owned patents could be operated by American citizens on the granting of a license from the Federal Trade Commission. The nonproprietary names "arsphenamin" (for salvarsan), "barbital" (for veronal), "cinchophen" (for atophan) and "procain" (for novocain) were coined, and a number of American firms were licensed and began to supply the drugs under these names. This was not accomplished, however, without considerable research work, because German patentees had, in many instances, violated the spirit of our patent laws; the very basis of the American patent system—nonsecrecy—had been circumvented. Although both process and product letters of patent had been issued to foreign subjects, nevertheless frequently the patents were not workable, and the descriptions were inadequate for successful manufacture. The Germans apparently took out American patents with a view to stifling any prospective American chemical industry.

Shortly after the Federal Trade Commission began to grant licenses, the Alien Property Custodian (who had seized many patents along with other German property) was authorized to dispose of seized property, the proceeds from the sales to be held by the government until settlement was made with the enemy. So it was that at first certain firms formerly under German control, such as the Bayer Company, were sold, together with the patents in which the firm's ownership was proved. It was soon evident, however, that the establishment of a permanent chemical industry —so necessary for public health and national defense—could not be obtained in this manner. A corporation, the Chemical Foundation, Inc., was then organized, to which the remaining 4,700 German patents were sold, by executive order, for the nominal sum of $250,000. The purpose of the foundation was stated to be the holding of patents, as a trustee, for the American chemical industry, "for the Americanization of such institutions as may be affected thereby, for the exclusion or elimination of alien interests hostile or detrimental to said industries, and for the advancement of chemical and allied science and industry in America." Licenses have been granted to any firm that could present satisfactory evidence of its reliability in chemical manufacture; no firm may have a monopoly on any patent. As has been stated, all moneys earned are to be spent for altruistic purposes. The Chemical Foundation has served as a bulwark in establishing chemical independence in the United States. Today no shortage of drugs exists, while the quality of American-made synthetics is second to none. The American chemist deserves credit for accomplishing this in spite of the many handicaps, such as the lack of facilities and the hindrances caused by the nonworkable patents. Of course, drug manufacture cannot be successful without dye manufacture at the same time. But the drug industry has been maintained in the days since the war in large measure through the efforts of the Chemical Foundation, which has kept the patents strictly in American hands, and has worked for the protection of the industry. Other aid has been the embargo on foreign dyes.

Now, however, a grave situation impends. The embargo on dyes—without which an independent pharmaceutical industry is impossible—is about to expire; the Senate, by a close vote, has refused to extend time, and the tariff is unsettled. President Harding, on the advice of the Department of Justice, has instructed the Alien Property Custodian to take steps to secure the return to the custodian of all patents sold, under the "Trading-with-the Enemy Act," to the Chemical Foundation, Inc., and has informed the custodian that, in carrying out the instructions he shall act

only on the advice of the attorney-general. What is the significance of this action?

Considerable agitation has been noticed in Congress for the return of property of private owners among the peoples recently at war with the United States. Such a bill is now before the House. There is some soundness in the argument of the inviolate rights of personal property, but more emphasis should be given to the statement of the *Oil, Paint and Drug Reporter*, in this connection, that the "question of generosity toward unrepentant, pledge evading enemies shrinks into insignificance in comparison with the companion proposal that would nullify the industrial victory which apparently has been America's sole gain from the defeat of her adversaries." Another argument is that the patents were sold to the foundation at too nominal a price. No fault can be found with the demand of the President for an investigation, if he has evidence that indicates that the public trust was violated in selling the patents at too low a figure. Certainly, a clean-cut investigation should be most welcome particularly to the adherents of the foundation, although the method of attack seems unfortunate. On the other hand, Mr. Francis Garvan, president of the Chemical Foundation, insinuates that a group of lawyers from Germany, representative of the German dye and drug "cartel," together with representatives of German importers, visited the Department of Justice shortly before the attack was made on the foundation, and submits evidence which indicates that strong German influences are at work in this politicocommercial intrigue.

The physicians of the United States must never again be dependent on a foreign country for essential drugs; the attendant evils of the past inadequacy are still fresh in our minds. The organic chemical industry of America must be maintained in the interest of public health and national security. Whether by the Chemical Foundation or by some other method, American chemical industry must be encouraged. The American people should know what is really behind the recent agitation, which is apparently so favorable to the German chemical trust. Germany was successful in creating a chemical monopoly not only because labor was cheap but, more important, because the German government subsidized and protected the industry. America can be independent only if its chemical industry enjoys reasonable protection. Never again should we face the dilemma of 1915 and 1916; never should we permit any foreign domination of our therapeutics.

Mental Hygiene in Industry.—The movement for a mental hygiene of industry is an endeavor to apply the mental sciences, psychology and psychiatry, in personnel administration for the purpose of developing the personality of each individual worker in the interests both of good work and of human happiness. It is an effort toward what might be called scientific large-scale production of individualization.—M. C. Jarrett, *Hospital Social Service* **36**:365 (May) 1921.

Current Comment

THE METABOLISM OF PREMATURITY

The metabolism of the new-born has been the subject of extensive investigations in several laboratories of this country. The outcome has been consonant with the now well established idea that the energy exchange of the young adolescent is decidedly larger than that of the age after puberty. An adult may have a basal metabolism of approximately 1 calory per kilogram of body weight for each hour. In children below 1 year of age, the figure may reach two and one-half times this. Murlin and Hoobler [1] state that 60 calories per kilogram each day may be called the heat production of normal, recently fed infants at complete rest. Newborn babies, however, have been found to have a metabolism less than this and not exceeding 48 calories per kilogram each day. Whether the figures for the different ages of early infancy are not essentially alike when the comparisons are made on the much debated basis of body surface rather than body weight need not be discussed here. It is of interest, however, to learn from studies by Talbot, Sisson, Moriarty and Dalrymple [2] at Boston that the basal metabolism of prematurely born but organically sound babies is strikingly low from any point of view. This fact is interpreted to be dependent on the circumstance that there is a small amount of active heat-forming tissue in such incompletely developed infants. They have an unstable body temperature tending to subnormal, and are unable to compensate readily for loss of heat. The relatively large food requirement under these conditions has long been recognized. Rubner and Langstein [3] have found more than 40 per cent. of the calories ingested as food to be retained by prematurely born infants, thus attesting the enormous "growth impulse" which they possess.

MEDICAL LICENSURE IN ILLINOIS

Following the licensure scandal in Illinois a year ago, at least two investigating bodies have recommended to Governor Small that Director W. H. H. Miller be removed or suspended from office. One was the special committee appointed by the governor himself to make an investigation. Nevertheless, the governor has refused to heed the recommendations. Although Director Miller was charged with trafficking in examination papers and physicians' and pharmacists' licenses, his attorneys are attempting to prove, not that Miller et al. were not guilty of the acts indicated, but that they were violating no law and, therefore, that the acts did not constitute a crime! How will the licensing boards of other states regard these actions? Will they be willing to continue reciprocal relations with Illinois when the licenses granted are under such suspicion? Can any excuse be found for such bartering in certificates

1. Murlin, J. R., and Hoobler, B. R.: The Energy Metabolism of Ten Hospital Children, Am. J. Dis. Child. **9**:81 (Feb.) 1915.
2. Talbot, F. B.; Sisson, Warren; Moriarty, Margaret E., and Dalrymple, Alice J.: The Basal Metabolism of Prematurity, abstr. J. A. M. A. **78**:1835 (June 10) 1922.
3. Rubner, M., and Langstein, L.: Arch. f. Physiol., 1913, p. 39.

and licenses as has apparently been done? How about the interests of the public which the state employee is supposed to conserve? [1]

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Malaria Experiment.—The city of Florence has been selected by the government as the location for investigations on matters of health, especially the transmission of malaria. The Rockefeller International Health Board is also interested in the work. Surg. Lunsford D. Fricks, U. S. Public Health Service, is in charge. He will establish headquarters shortly. Mr. Bruce Mayne of the government health department in Memphis and Mr. Bedell of the International Health Board, Rockefeller Foundation, have been placed in immediate charge of the work by Dr. Fricks. Mr. Mayne will do the research work, while Mr. Bedell has been assigned to northern Alabama to assist and advise with the county health officers in reference to problems of drainage and mosquito control.

CALIFORNIA

Physician's License Restored.—At a meeting of the Board of Medical Examiners, State of California, June 28-29, the license of Dr. Calvin Luther Case, Oakland, which was revoked, Jan. 9, 1917, was restored. This entitles Dr. Case to again practice as a physician and surgeon in the state of California.

Ophthalmologic Course.—Professor Fuchs of Vienna recently accepted the invitation of a group of ophthalmologists in San Francisco to give a private course of lectures during his visit on the coast as the guest of the California Academy of Medicine. The course commenced, July 10, at the Stanford University Medical School. It will consist of thirty hours and will extend over three weeks.

Typhoid Campaign.—The state board of health has started an active intensive campaign for the improvement of sanitary conditions of Japanese vegetable, berry and fruit farms. The Japanese association and the tenants of the farms showed a marked willingness to cooperate with the state board of health in this work. To date, more than 100 old cesspools have been filled in and eighty new ones provided, the land owners supplying the material and the Japanese tenants performing the necessary labor to install the new equipment.

COLORADO

New Medical Society.—The Tri-County Western Slope Medical Society was organized in Delta, June 22, consisting of the counties of Montrose, Delta and Grand Junction. This society was formed for the purpose of promoting social intercourse among medical practitioners of the three counties and for the education of and promulgation among the people of medical knowledge. Dr. Arthur William McArthur, Delta, was elected president of the society.

DISTRICT OF COLUMBIA

Typhoid at Church Supper.—After a supper given by the Grace Lutheran Church in Washington, recently, forty-four guests were stricken with typhoid fever. According to Health Officer Fowler, most of the food was prepared the previous day and not kept on ice. Also two apparently healthy typhoid carriers aided in the preparation of the supper.

FLORIDA

New Medical Society.—At a meeting of physicians at Sebring recently, the Highlands County Medical Society was organized, with Dr. Robert J. McMurray, Sebring, president; Dr. Joseph L. Cloud, Avon Park, vice president, and Dr. J. H. Bogle, Sebring, secretary-treasurer.

Personal.—Dr. Ralph N. Greene, former state health officer, has been chosen president of St. Luke's Hospital, Jacksonville, to succeed G. H. Wall, superintendent of the institution, who has resigned, the resignation to become effective, August 1.——Col. Raymond C. Turck, state health officer, has been awarded the distinguished service medal for services rendered during the Meuse-Argonne offensive in 1918.

Maternity Welfare Offices.—The state offices under provisions of the Sheppard-Towner act have been established in the state board of health building at Jacksonville, under Dr. William B. Keating, director of the state child welfare bureau, and were opened July 1. Approximately $16,000 will be spent on the work, it was stated, during the next year. The state will be divided into subdistricts, with a supervising nurse at the Jacksonville headquarters.

ILLINOIS

Physician Fined.—It is reported that Dr. Edward A. Weisenhorn of Teutopolis recently paid a $40 fine and costs for failure to report births that had occurred in his practice. The court action against Dr. Weisenhorn was instigated by the local state's attorney at the request of a special agent of the state department of public health.

Baby Conferences Unusually Popular.—The popularity of the better baby conference movement in Illinois is indicated by the heavy demands on the state department of public health for professional aid in organizing and directing local conferences at various points. Up to June 30, 1922, the department had furnished the personal services of an experienced physician and nurse to twenty-five different communities during the half year, while a schedule has been arranged for supplying similar services to thirty-four additional communities during the remainder of the summer and fall. Of the total of fifty-nine conferences, twenty-seven have been or will be held in connection with county fairs.

Consultation Service in Venereal Disease Cases.—The division of social hygiene of the state department of public health is cooperating with the division of venereal diseases of the U. S. Public Health Service in carrying out a recently developed plan whereby the advice and counsel of several of the nation's most prominent syphilographers and genito-urinary surgeons are made available to the practicing physicians without cost. The plan is referred to as the "consultation by correspondence" service. Private practitioners may forward descriptive information and other essential data relative to any of their patients, either to the state department of public health at Springfield or to the U. S. Public Health Service at Washington, and this information will be placed promptly in the hands of the proper authority, for detailed and comprehensive discussion and reply.

Chicago

Personal.—Prof. William E. Quine, dean of the medical faculty of the University of Illinois, will be tendered a banquet and reception on the occasion of his visit to Los Angeles this month, by his old students and friends.——Dr. Caroline Hedger, medical director of the Elizabeth McCormick Fund, Chicago, is doing field work for the state college at Pullman, Wash., on behalf of a positive health program for children.

INDIANA

Physician's License Revoked.—The Indianapolis *News* states that at a session of the state board of medical examiners, July 12, the license of William A. Wenz, Indiana Harbor, was revoked. It was charged that Dr. Wenz has been operating a quack medical office and that he had charged a foreign-born patient more than $500 for a tonsillectomy.

IOWA

Health Conference.—A four-day public health conference was held at the University of Iowa, Iowa City, June 18-22, in cooperation with the state board of health, and under the direction of Dr. Daniel C. Steelsmith of the county and city health department, Dubuque. An extensive program of lectures and demonstrations by prominent medical authorities on subjects of health was carried out, and many health workers and nurses in the state attended the conference.

New Laws for Tourist Camps.—The secretary of the state board of health announces that hereafter all tourists' camps

1. Pennsylvania has suspended reciprocal relations with Illinois on licenses issued during and since 1921.

throughout Iowa will be under strict sanitary regulations, and will be regularly inspected to insure enforcement of the health law. The regulations as adopted by the health board, to be enforced by local boards, pertain to the provision of an adequate supply of pure water and the proper disposal of garbage and other waste material. A fly proof building shall be provided, with water flush toilets, and care taken that it be kept clean. Garbage must be kept in covered metal containers distributed through the camp grounds. Water faucets must be located at convenient places, and under no circumstances may water be dipped from a spring, or a barrel or any other receptacle. In grounds having an unpiped water supply, a sign of warning must be placed directing attention to safe water. A competent caretaker will be placed in charge of every camp, whose duty it will be to see that the grounds are kept in a sanitary condition.

KANSAS

New Dispensary.—A new dispensary was opened in connection with St. Francis Hospital, Wichita, July 17. The dispensary is nonsectarian and will furnish medical care and drugs, free of charge. A social worker will check up each case to insure that all patients are deserving. Dr. Leon Matassarin is medical director.

LOUISIANA

Fire Destroys Laboratory.—Destruction of many irreplaceable specimens is, according to health officials, the principal damage resulting from the fire which broke out in the bacteriologic laboratories of the state board of health in New Orleans, July 8. Damage to the building and equipment is estimated at $3,000.

Maternity Bill Killed in the Senate.—Following the argument for indefinite postponement of Representative Dymond's maternity bill, as reported in THE JOURNAL, July 8, the Senate failed to pass the bill, July 5, by a vote of nineteen yeas to seventeen nays. Reconsideration of the bill was blocked by Senator G. H. Couvillion, who denounced the provisions of the bill as an invasion of state rights. This bill provided that Louisiana give its assent to the terms of the Sheppard-Towner act.

MARYLAND

Maple Heights Sanatorium.—Dr. Martin F. Sloan, formerly director of the Eudowood Sanitarium, has recently purchased a tract of 85 acres at Sparks, Baltimore County, on which he proposes to build a sanatorium for the treatment of lung diseases. The sanatorium will be known as the Maple Heights Sanatorium and will be in operation about September 1. It will have accommodations for twelve patients, and other units will be put up as the needs arise.

Legislative News.—A bill was recently passed in the Senate providing for the appointment of a health officer for Allegany County and one providing for a commission to govern the Eastern Shore Tuberculosis Hospital. The bill providing for the extension of the Injunction and Abatement Law, relating to places of prostitution, was killed in the Senate Committee. House bill 310, prohibiting experiments on dogs, was killed in the House.

New Diphtheria Clinic.—A new diphtheria immunization clinic will be established in Hagerstown, the Washington County Health Demonstration has announced. Work on the construction of the new clinic will be started in a few weeks. It will be modeled and conducted along the same lines as the clinics at Johns Hopkins Hospital, Baltimore, and will be in charge of Dr. Adolph S. Rumreich of the Johns Hopkins School of Hygiene. All material used at the clinic will be certified by the Johns Hopkins Department of Immunology.

Personal.—Dr. G. Canby Robinson, professor of medicine at Johns Hopkins University, Baltimore, during the current year, will spend the summer in study at the University of Copenhagen before assuming his duties as professor of medicine at Vanderbilt University Medical Department, Nashville, Tenn.——Dr. Champe C. McCulloch, Jr., colonel, M. C., U. S. Army, has been appointed health officer for Allegany County as the first full-time health officer in Maryland. Arrangements are also being made that may result in his serving as deputy state health officer.——Dr. John W. Klemm, Mount Rainier, has filed application with the supervisors of elections as a candidate for the democratic nomination as representative to Congress from his district.

MASSACHUSETTS

Licenses Revoked.—It is reported that the license of Dr. Philip A. E. Sheppard, Boston, has been revoked for unprofessional conduct in making unwarranted claims in the practice of his profession.——The license of Dr. Alfred J. Boyle, Boston, has also been revoked, for violation of the Harrison Narcotic Law.

Personal.—Dr. Alfred H. Quessy was recently elected president of the state supervisors of the Massachusetts Medical Association.——Dr. William Duane, Harvard Medical School, will deliver the Caldwell Lecture at Los Angeles in September at the annual meeting of the American Roentgen Ray Society.——Prof. Harvey Cushing, Boston, recently returned to this country from England where he acted as director of the surgical unit of St. Bartholomew's Hospital, London, for a fortnight, under the plan in operation the past few years that exchange visits of foreign surgeons with the Peter Bent Brigham Hospital, Boston, should be arranged, the visiting surgeon to be temporary surgeon-in-chief in place of Dr. Cushing for some period in each year. Prof. G. E. Gask was deputized at Harvard in 1921 and Sir Cuthbert Wallace has just returned to England from filling a similar office this year. Professor Cushing while in London delivered the Cavendish Lecture on "Meningiomas" before the West London Medico-Chirurgical Society.

Special Free Course at Boston University.—Arrangements have been made for a free course in laboratory technic for nurses who are graduates of recognized hospitals in the conjoint pathologic laboratories of Boston University and the Massachusetts Homeopathic Hospital, Boston. The course covers one year of actual time, during which large numbers of examinations are made by each student and toward the end of the course partially independent work and responsibility are provided by service in one of the smaller branch laboratories. Didactic and laboratory instruction similar to that given to medical students is provided in bacteriology and immunology, including Wassermann tests, hematology, urinary analysis and preparation of tissues. In addition, the students are taught to perform the various tests and technical procedures used in a general pathologic laboratory for a hospital of more than 500 beds and a class A medical school. An optional three months course in roentgen-ray technic can be arranged in addition, also free of charge. The number of students will be strictly limited in order to give each one every opportunity for advancement. The hospital will provide board, room and laundry, without cost to the student, and award the final certificate on completion of the course. For further information apply to the Department of Pathology, Boston University, 80 East Concord Street, Boston.

MICHIGAN

Academy of Surgery of Detroit.—At the annual meeting held in May the following officers were elected: president, Dr. Max Ballin; vice presidents, Drs. Alexander W. Blain and Charles S. Kennedy, and secretary-treasurer, Dr. William W. Barrett. Dr. Cyrenus G. Darling, Ann Arbor, read a paper entitled "The Importance of Early Operations."

Presentations to Medical Society.—Three hundred volumes from the library of the late Dr. Albert H. Steinbrecker have been presented to the Wayne County Medical Society by his widow. Other volumes have been given by Drs. Belle Warner, Herbert M. Rich and Homer E. Safford.——A portrait of the late Dr. Theodore A. McGraw has been presented to the society by his family and will be hung in the council room, together with the portrait of Dr. Howard W. Longyear, which was recently received.

MINNESOTA

Hospital News.—The board of directors of St. Luke's Hospital, Duluth, have recently perfected an organization of the attending physicians and surgeons. An advisory medical board of seven has been appointed and regular monthly meeting will be held at the hospital. Dr. John J. Eklund was elected president and Dr. Mark H. Tibbetts, secretary, of the organization.——The St. Cloud Commercial Club has started a movement for the erection and maintenance of a tuberculosis sanatorium, with state aid, for the central counties of the state.

Personal.—Dr. C. Hamlin Pelton, St. Paul, has been appointed superintendent of the Elyria Memorial Hospital, Elyria, Ohio.——Dr. George E. Fahr of the Medical School of the University of Minnesota, Minneapolis, read a paper on "The Present Status of Digitalis Therapy," at the

fifty-fourth annual meeting of the Wabasha County Medical Society.——Dr. Philip E. Stangl has recently completed a new two-story office building at St. Cloud, which he will occupy with Drs. Fred H. Stangl and Irwin E. Bowing of Chicago. Dr. Fred Stangl was formerly associated with the Cook County Hospital, Chicago, and Dr. Bowing was roentgenologist to the Lutheran Deaconess Hospital.

MISSISSIPPI

Physician Sentenced to Penitentiary.—It is reported that Dr. Isaac F. Barnes, Gulfport physician, was sentenced in the federal court, June 27, by Judge Holmes, to serve two years in the penitentiary at Atlanta, Ga. Dr. Barnes was convicted on a charge of violating the Harrison Narcotic Law.

MONTANA

Joint Medical Meeting.—The physicians and druggists of Fergus and Judith Basin counties, held a joint meeting at Lewiston in June. Every physician and druggist of Lewiston and most of the physicians and druggists of the two counties attended. Another meeting will be held in the near future.

NEW HAMPSHIRE

Public Health Association.—At a special meeting of the house of delegates and the council of the New Hampshire State Medical Society in Concord, June 29, it was voted to sponsor a movement for the organization in the state of a public health association composed of professional men and women and interested people, for the purpose of promoting public health matters in New Hampshire. The new organization will work in full cooperation with the state board of health. Dr. Olin West, Chicago, explained the work of the American Medical Association in his address to the meeting.

NEW JERSEY

New Vaccination Order.—Hundreds of pupils attending normal schools in New Jersey will be compelled to submit to a vaccination, as the result of a recent decision by the state board of education that hereafter vaccination in schools coming under the jurisdiction of the board shall be governed by the practice of the district in which the school is located. The board's action was prompted by criticism of the fact that, while vaccination is required in the public schools, pupils in the state normal schools and in the affiliated practice schools are exempt.

NEW YORK

Licenses Revoked.—It is reported that the board of regents of the University of the State of New York has recently revoked the licenses of Solomon Rothman and Michael Di Preta, who were found guilty of violation of the Medical Practice Act. Proceedings have been initiated by the board of medical examiners similarly to disqualify several others for violations of state and federal laws.

New York City

Columbia University Prize Honors.—Dr. Edgar FahsSmith, formerly provost of the University of Pennsylvania, was awarded the Chandler Gold Medal at the annual commencement of Columbia University. In the School of Medicine, the Harold Lee Mierliof memorial prize was divided between Harold Alexander Abramson of New York and Samuel Harold Gray of Brooklyn.

Night Clinic for Reconstruction Hospital.—For the convenience of disabled workers who have been able to return to work but who still require after-care of industrial disabilities, the Reconstruction Hospital opens its outpatient department between 7 and 9 o'clock every Monday, Wednesday and Friday nights. This affords a much needed opportunity for continuing treatment to the partially disabled who must work during the day. Dr. Christopher G. Smith is chief of the night clinic.

New Veterans' Dispensary.—The U. S. Veterans' Bureau is establishing a dispensary at its headquarters in the Grand Central Palace, which it is claimed will be the largest and most up to date in the world. It will include a complete dental clinic, complete physiotherapy and hydrotherapy outfit., the most modern roentgen-ray unit obtainable and every known facility for the speedy examination of patients. The equipment will cost $200,000 and will make available to veterans every phase of medical treatment except hospitalization.

OHIO

New Medical School and Veterinary Hospital.—Bids have been asked for the $3,000,000 medical school, animal hospital and power house for Western Reserve University. The development is part of the Lakeside Hospital group to be built on Euclid Avenue, Cleveland, from the donation by Samuel Mather.

Hospital News.—Delegates from Pythian lodges from all parts of the state were in Springfield for the recent dedication of the new hospital addition to the Pythian Home for the Aged, which has just been completed.——The contract has been awarded for the erection of a $100,000 addition to the city hospital, Hamilton.——The Stillwater Sanatorium near Dayton, the sanatorium for Montgomery and Preble counties, has just completed an addition, which will be known as the Beck Memorial Building and provides accommodation for forty patients.——The construction of buildings, which will care for 100 additional children and sixty adults at the Cleveland Tuberculosis Sanatorium, Warrensville, will be started August 1. This work will cost, it is estimated, $295,000.——Governor Davis has approved the purchase of 1,704 acres of land near Grafton for $192,493 for a site for a new institution for the feeble-minded.

University News.—As was announced in this column, July 1, the trustees of the Ohio State University, Columbus, decided to amalgamate the homeopathic medical school with the regular medical department and to establish two homeopathic chairs. Since then the board, at a meeting, July 11, has taken further action by abolishing the chairs of homeopathic materia medica and practice of homeopathic medicine. It is reported that the vote was 3 to 2. The homeopathic hospital will be taken over by the regular staff about the middle of August. There is some doubt as to the disposition of the moneys held by Ohio State University for endowment of certain homeopathic activities in the university, especially the $150,000 of General Motors stock, given by Mr. Kettering of Dayton. It is thought that the moneys will be returned to the donors. The University of Michigan has also voted to abolish the chairs of homeopathy in the medical school. The faculty of the medical college of Ohio State University will be enlarged considerably next year. No appointments have yet been made.

OREGON

Personal.—Dr. Vern L. Hamilton, Coquille, was recently appointed city health officer.——Dr. H. M. Peery has been appointed secretary of the Coos and Curry Medical Society to succeed Dr. Tilden T. Manzer, who is leaving Marshfield.

Workmen's Compensation Act.—The Supreme Court of Oregon has decided that according to the meaning of the workmen's compensation act of that state, an occupational disease is not a "personal injury by accident" and therefore is not compensable. The questioned disease in this case was lead poisoning.

Hospital News.—The Fraternal Hospital Association recently purchased a tract of land at Astoria for $25,000 for the purpose of erecting a modern hospital building at a cost of approximately $200,000.——A new hospital will be erected in North Bend at a cost of $50,000. The building will have accommodations for fifty patients.

University News.—Dean Richard B. Dillehunt announces that the General Education Board has appropriated $113,000 for the construction of a new unit of the University of Oregon Medical School, Portland. This sum was duplicated by the state legislature, and the new building will be opened, September 1. The total cost was $250,000. This unit will provide for extension of all the preclinical departments and for offices and laboratories for clinical departments, and will enable the registration of seventy-five students per class. The present capacity is only sixty. An additional sum of $50,000 was appropriated by the General Education Board, to become available on completion of the building. The Portland City and County Medical Society and the Portland Academy of Medicine each donate $500 annually to the support of the medical school library, and Dr. Charles Mayo, Rochester, Minn., this year relinquished the fund of $100 provided for an endowed lecture, donating the sum to the library.——The Portland Free Dispensary has been reorganized and its capacity trebled. The daily attendance has increased from an average of thirty-five to ninety-five during the year.——The Multnomah Hospital, with a capacity of 250, now being constructed on the campus of the University of Oregon, will be opened to the public about December 1.

RHODE ISLAND

The Fiske Fund.—At the annual meeting of the Rhode Island Medical Society, June 1, no prize was awarded under the Fiske fund on the subject of "Radium Therapy." The subject selected for 1923 is "Has Surgery Lessened the Incidence of Cancer?" A prize of $200 is offered for the best essay on this subject.

SOUTH DAKOTA

Physician Loses Suit.—It is reported that a jury in the circuit court at Chamberlain awarded Mrs. Bessie Feltman damages of $7,500 against Dr. Abner B. Dunn. The plaintiff instituted the suit asking damages for an alleged permanent deformity, which she charged was due to improper care on the part of the defendant. It is believed that the case will be appealed.

TEXAS

University News.—At a recent meeting of the board of regents of the University of Texas Department of Medicine, Galveston, it was announced that only eighty students will be admitted to the medical department at the next session 1922-1923. Entrance will be based on scholarship, and preference will be accorded men and women from Texas institutions. This action was made necessary by the inadequacy of the present buildings and laboratory equipment.——The first graduate course held at the University of Texas was concluded, July 1. Forty-nine physicians from widely scattered areas registered with others in attendance. The course was so successful that it is expected to become an annual feature and will expand to large proportions.

UTAH

University News.—During the year 1921, the regents of the University of Utah School of Medicine, Salt Lake City, have approved two important measures pertaining to the medical school. 1. On recommendation of the medical faculty, the regents have approved the proposition of limitation of students in the medical classes. Beginning next year, therefore, classes in the medical school will be limited to twenty-five students. 2. Recently the medical faculty recommended that the college requirements be raised from two to three years. The regents approved this recommendation, and it will go into effect for the year 1924-1925.

VIRGINIA

Personal.—Dr. Manfred Call was elected dean of the Medical College of Virginia, Richmond, at the annual meeting, to succeed Dr. Edgar C. L. Miller.——Dr. C. E. Wallace has been assigned to the Cape Charles quarantine station at Old Point Comfort, to take over the work which has been conducted for the last two and a half years by Dr. Floyd C. Turner, who has been transferred to Ellis Island, N. Y.

Chiropractor Loses Damage Suit.—In a newspaper clipping from Norfolk, it is reported that damages of $5,000, for alleged malpractice, were awarded to E. C. Jackson by a jury in the circuit court at Portsmouth, June 30, against Hugh D. Via, a chiropractor. The plaintiff stated that Via promised to cure him of a "kink in his back," but that after three treatments he had to go to a hospital, where his back was placed in a plaster cast. Much discussion was given at the trial to the training required of chiropractors.

Tuberculosis Associations Organized.—During the first two weeks in June, twelve antituberculosis societies were organized in the state by the following counties: Isle of Wight, Southampton, Sussex, Prince George, Dinwiddie, Greensville, Brunswick, Nottoway, Amelia, Goochland, Charlotte and Halifax. Farquier County already has a tuberculosis association, so there are now thirteen permanent county organizations to combat the disease in their respective communities. Similar organizations are being formed rapidly in the remaining counties of the state.

WASHINGTON

Washington Tuberculosis Association.—At the annual session in Seattle, it was resolved to petition the next legislature to make Washington state eligible for funds under the Sheppard-Towner act. The following officers were elected for the ensuing year: president, Mrs. R. C. McCredie, Sunnyside; first vice president, Dr. Christen Quevli, Tacoma; second vice president, Dr. H. S. Brode, Walla Walla; secretary, Prof. John Weinzirl, Seattle, and treasurer, Charles R. Case, Seattle.

WISCONSIN

Personal.—Dr. Arthur H. Broche, formerly health officer of Oshkosh, has been elected again to that post to succeed Dr. Bertha Thomson.——Dr. William W. Johnston has been elected health commissioner of Racine, under a plan of organization of the department of health which diverts authority in the health administration from the chief of police to the health officer.——Prof. Benjamin H. Schlomovitz, director of the department of physiology and pharmacology, Marquette University, Milwaukee, has resigned to become director of the laboratories of the National Soldiers' Home and Hospital, now under construction in Milwaukee. ——Dr. William A. Rauch, Eaton, has been appointed resident physician at the South View Hospital, Milwaukee.

PHILIPPINE ISLANDS

Public Health News.—According to a recent number of the *Monthly Bulletin* of the Philippine Public Health Service, the School of Public Health of the University of the Philippines is to be reopened. A degree of doctor of public health or its equivalent will be conferred on all candidates who successfully complete the course.

CANADA

New Hospital Opened.—The lieutenant-governor of Ontario officially opened the Willet Hospital at Paris, Ont., July 1. A large contingent of Parisians now in Toronto presented the hospital with an operating table, Mayo rack and stool and cabinet, following the official opening.

Queen's University.—In the Dominion and Ontario Medical Council examinations, nine out of ten men from Queen's University Faculty of Medicine, Kingston, Ont., passed the Dominion examinations and twenty-six out of thirty-one passed the Ontario Medical Council examinations.

Personal.—Dr. Augusta Stowe Gullen, Toronto, was elected vice president for Ontario at the recent annual convention of the National Council of Women at Port Arthur.—Dr. Edward Charles E. Camepau, St. Therese, Que., who has been in active practice for more than twenty-five years, has recently been ordained to the priesthood.——Dr. W. R. Reeds, medical missionary at Honan, China, has arrived in Toronto to take a graduate course in medicine in the University of Toronto. ——Dr. Rowland B. Orr, Toronto, has been elected president of the Ontario Historical Society.——Dr. William S. Todd, Hartford, Conn., ex-chairman of the International Board of Examiners in Optometry, was entertained at luncheon in Toronto recently by local optometrists.

GENERAL

Spencer Fullerton Baird Centenary.—In response to the request of the Smithsonian Institution, Washington, D. C., President George E. de Schweinitz, with the approval of the Executive Committee of the Board of Trustees, has appointed Dr. Victor C. Vaughan as the American Medical Association representative on the National Committee which is to have charge of a movement to commemorate on Feb. 3, 1923, the one hundredth anniversary of the birth of Spencer Fullerton Baird. Professor Baird was a noted American naturalist, served as assistant secretary of the Smithsonian Institution in 1850 and as secretary in 1878, and was the author of several books and almost a thousand contributions to natural science.

Pacific Northwest Medical Association.—At the first annual session of the Tri-State Medical Association, held in Spokane, July 6-8, the following officers were elected for the ensuing year: president, Dr. J. Earl Else, Portland, Ore.; first vice president, Dr. Alexander Munro, Vancouver, B. C.; second vice president, Dr. Joseph E. Tyree, Salt Lake City; secretary-treasurer, Dr. Frederick Epplen, Spokane, Wash., and councilor, Dr. Andrew A. Matthews, Spokane. Dr. Else served during the last year as provisional chairman at the head of the organization. Among the visiting physicians who delivered lectures before the meeting were, Drs. Edward C. Rosenow, Rochester, Minn.; Frank Billings, Chicago; Wallace I. Terry, San Francisco; Louis J. Hirschman, Detroit; William Engelbach, St. Louis; Henry A. Christian, Boston; Joseph C. Bloodgood, Baltimore, and Alfred W. Adson, Rochester, Minn.

Personal.—Dr. Henry Hall Forbes, associate professor of diseases of the nose and throat, New York Post-Graduate Hospital, sailed for Paris, July 8, to attend the Tenth International Congress of Otology, before which he will read a

paper on the "Bronchoscopic Treatment of Lung Abscess." Later, he will attend the meeting of the British Medical Association at Glasgow, where he will read a paper before the section on laryngology on "The Use of Radium in Cancer of the Esophagus and Larynx in America."——Dr. Bowman Crowell, New York, who has just returned from South America, where for the last four years he has been combating the Chagas disease in Brazil, has been appointed professor of pathology and experimental medicine at the Medical College of the State of South Carolina, Charleston.——Dr. Charles J. Hatfield, Philadelphia, president of the American Tuberculosis Association, recently sailed on the *Finland* for Europe to attend the International Conference on Tuberculosis in Belgium.——On the *Homeric* for Southampton were Drs. David Riesman, Philadelphia; Arnold C. Klebs, Chicago; Samuel G. Gant, New York; H. H. Fries, Frederic E. Sondern, David H. McAlpin, Frederick Braun, Henry B. Epstein, Miles Farrow, Irwin H. Hance, Mark J. Schoenberg and Shober Smith.——Dr. E. E. Montgomery and wife, Philadelphia, have gone for a trip to Alaska, to return in about two months by way of the Canadian Rockies.

Counterfeit of Liquor Prescriptions.—A warning has been sent out to druggists of the country by Prohibition Commissioner Haynes, declaring that the Internal Revenue Bureau has discovered new counterfeit physicians' prescription blanks that are being used to obtain liquor. The statement of the commissioner declared that the filing of any considerable number of these counterfeit permits by druggists may be regarded as proper grounds for the revocation of the druggists' permits. Describing the difference between the genuine and the counterfeit prescription blank the commissioner said:

> The counterfeit is a printed form made on paper which is cheaper and considerably lighter in color than the paper on which the genuine forms are engraved. The green ink used over the entire face of the counterfeit is appreciably lighter in color than that used on the genuine form. The counterfeit is also somewhat shorter than the genuine blank, the latter, after being detached from the stub, being 6 9/16 inches in length, while the similar portion of the counterfeit is barely 6½ inches long. The printing on the counterfeit is much lighter in color than the genuine blank, and on the counterfeit the edges of the letters and the shading is blurred. On the genuine, all lettering and shading is black, with clear-cut outlines. The water-marking on the counterfeit is much less distinct than on the genuine blank, the details of the Treasury seal on the counterfeit being very indistinct, and the word "prohibition" being so faint as to be hardly distinguishable. The Treasury seal and the word "prohibition" are very plainly marked on the genuine blanks. On the counterfeit, the letter "A" printed in red ink preceding the book number is not in alignment with the figures following it, the bottom of the letter "A" being perceptibly lower than the bottom of the figures. On the genuine prescription blank the letter "A" is on a line with the book number.

Bequests and Donations.—The following bequests and donations have recently been announced:

Home for old people and convalescent mothers, New Orleans, a trust fund of $750,000 for the endowment of such a home, in memory of her father and her husband, to be known as the Holmes-Thomas Home, by Mrs. Georgine Thomas of New York.

Servants for the Relief of Incurable Cancer, $500,000, as a memorial to her husband, Charles H. Klein, by the will of Mrs. Mamie Klein.

South Side Hospital, Bay Shore, N. Y., $250,000 by collections.

Presbyterian Hospital, New York, $50,000; New York Orthopedic Hospital, $25,000; Babies' Hospital, $15,000, and Woman's Hospital, $10,000, by the will of Mrs. Henry B. Hyde.

Long Beach, N. Y., $300,000, to found a hospital, by subscriptions, and a site donated by the mayor.

Beauvoir Soldiers' Home, Beauvoir, Miss., $15,000, donated by fifteen counties by appropriations.

Bayonne Hospital, Bayonne, N. J., $5,000, to the endowment fund, by the Misses Mahnken.

Pennsylvania Hospital, Philadelphia, $5,000, for the maintenance of a free bed, by the will of John A. Crane.

Home for Incurables, Philadelphia, $4,000, by the will of Daniel W. Clark.

U. S. Veterans' Tuberculosis Camp, Tupper Lake, N. Y., $3,463, from the Manhattan Club of New York City.

St. Elizabeth Hospital, Elizabeth, N. J., one half of the residue of the estate of Mary A. Reilly of Elizabeth; and $2,500 from the estate of Patrick J. McGuire of Plainfield, N. J., following the death of his wife.

Alice Home Hospital, Lake Forest, Ill., $2,000, from the proceeds of a county fair.

Protestant Deaconess Hospital, Evansville, Ind., $1,000, as a memorial to Benjamin Bosse by his widow, Mrs. Anna Bosse; and $500 by the family of Frederick H. Riechmann.

Brooklyn Hebrew Orphan Asylum and Jewish Hospital of Brooklyn, $1,000 each; the Sydenham Hospital and the Hebrew Infant Asylum, New York, $500 each, by the will of Benoit Wasserman.

Community Hospital, Hutchinson, Kan., $325, from the auction of three pure bred bulls presented to the hospital.

Union Hospital Association, New Philadelphia, Ohio, $200, to equip a room in the new wing, by Lodge 510, B. P. O. Elks.

Dunson Hospital, La Grange, Ga., the library of her late husband, Dr. Henry W. Terrell, to the physicians' consulting room and library, by Mrs. H. W. Terrell.

LATIN AMERICA

Rockefeller Commission in Honduras.—The Rockefeller Foundation has sent a hookworm commission to Honduras. One of its members, Dr. D. B. Wilson, accompanied by Dr. Brizzio, director of public health, has already visited several towns.

Pasteur Celebration in Mérida.—The Mérida branch of the Mexican Medical Association has decided to hold a medical contest in honor of Pasteur. The prizes will consist of medals and diplomas to the local physicians who will submit the best papers on local diseases and means of control. The prizes will be awarded on Dec. 27, 1922, the centenary of Pasteur's birthday.

Argentine Pediatric Literature.—The May issue of the *Archivos Latino-Americanos de Pediatria* is a volume of ninety-six pages, devoted entirely to the classified presentation of the titles of articles on children's diseases published in Argentina since 1916. This journal is the official organ of the Sociedad Argentina de Pediatria as also of the Sociedad de Pediatria de Montevideo. The directors are Prof. Aráoz Alfaro and Prof. L. Morquio. The editors in charge are Drs. Iribarne and Pelfort.

The University of Lima Reopens.—After more than a year of suspension, this important institution of learning has resumed operation, although, as the *Crónica Médica* remarks, "the air is not quite clear even yet." During the long suspension, the university lost by death two leaders, Odriozola, the rector, and Prado, the vice rector. Dr. Gastañeta has been elected to the post of dean. His friends, and the university authorities and students celebrated his election with a festival meeting with moving addresses on the historic occasion of the reopening of the university.

The "Prensa Médica Argentina."—This Buenos Aires exchange appears in a new form, changing as it enters its ninth year from a broad sheet like a daily to about the size of THE JOURNAL. Its editorial staff contains many familiar names, such as D. J. Cranwell, M. R. Castex, Bonorino Udaondo, Bosch Arana and Mazza, besides thirty-three others constantly appearing in medical literature. It has rather specialized in the last year or so in the practical study of inherited syphilis, publishing profusely illustrated observations which have thrown light in many dark corners.

Mexican Committee for the Sixth Latin American Medical Congress.—An organizing committee for Mexican participation in the Sixth Latin American Medical Congress has been appointed as follows: honorary presidents, Drs. Gabriel Malda, Guillermo Pavia, J. Ramon Xaza and Nicolas León; president, Dr. Gregorio Mendizábal; vice president, Dr. Alfonso M. Pruneda; treasurer, Dr. Joaquín G. Cosío; secretary, Dr. Ricardo E. Cicero; members, Drs. E. Avalos, A. B. Vasconcelos, F. Castillo Nájera, M. Cordero, G. Díaz Lombardo, G. Esclona, J. Ulises de la Garza, J. de J. González, E. Landa, J. M. Noriega, F. Ocaranza, F. Paz, T. G. Perrin, R. Silva and D. M. Vélez. The subject assigned to Mexico is medical reciprocity in Latin America. The essayist will be Dr. A. Pruneda, secretary of the public health department. In addition, papers will be presented by other physicians.

Personal.—Dr. Salvador Bermudez of Mexico has been granted a two months' fellowship by the Rockefeller Foundation, at the Johns Hopkins Public Health School.——Dr. A. Esguerra Gómez, professor of pathology of the University of Bogota, has been appointed a member of the Radium Institute of Paris. Dr. Esguerra was designated by Professor Regaud to make the first applications of the radium donated by American women to Mme. Curie.——Dr. F. A. Risquez, one of the most prominent Venezuelan physicians, celebrated, April 27, 1922, his forty years of university teaching.——Prof. Aloysio de Castro and Prof. Afranio Peixoto of Rio de Janeiro have been elected corresponding members of the Academia das Sciencias of Portugal.——The *Brazil-Medico* records that Dr. Afranio Amaral of the Instituto de Butantan is to sail in July for the United States on a trip of inspection. He will be accompanied by Dr. W. de Oliveira, a public health officer of Botucatú, and Dr. J. Fragoso, sanitary inspector of Piracicaba.——Prof Moraes Frias of the University of Porto is on his way to visit Brazil.

FOREIGN

Prophylaxis of Diphtheria in the Netherlands.—The city of Dordrecht has made arrangements for active immunization of schoolchildren against diphtheria when the parents desire.

Swiss Surgical Meeting.—The ninth annual meeting of the Swiss Surgical Association was held at St. Gall early in

July. The main subject appointed for discussion was "Constitution and Surgery," with addresses by Askanazy, Vulliet and A. Kocher.

Social Insurance in Germany.—The *Münchener medizinische Wochenschrift* warns that a small cloud is visible to the medical profession on the horizon in the recent demand of certain German housewives that the business of being a housewife should be recognized as a regular trade.

Anniversary of van Swieten.—Our Vienna exchanges mention that June 18 was the hundred and fiftieth anniversary of the death of Gerard van Swieten, 1700-1772. He was a pupil of Boerhaave and was called from Leyden to Vienna by the Empress Maria Theresa. He reorganized the entire system of medical education in Austria.

A Discriminating Publication.—The *Revista de Higiene y de Tuberculosis* of Valencia, Spain, is particular in choosing its exchanges. It has published a list of papers, with which it refuses to exchange, because of their being devoted to the advertising of "patent medicines." The list follows: *Le Monde Médical, La Médicine Pratique, Revista de Técnica Médica, La Medicina Internacional, Revista de Información Terapéutica, Clinique et Laboratoire, La Rassegna di Clinica, Terapia, Boletin del Sucro Cuguillère, Revista de los Laboratorios Americanos* and *L'Avenir Médical.*

Italian Congress of Radiology.—At the fourth annual congress held in Bologna, May 9-11, under the presidency of Prof. A. Busi, the following officers were elected: honorary president, Prof. Senator O. Corbino; president, Professor Bertolotti, Turin; vice president, Professor Balli, Modena, secretary-treasurer, Professor Ponzio, and chief editor of the journal of the society, Professor Perussia, Milan. Palermo was chosen as the place for the fifth congress to be held in October, 1923, under the presidency of Professor Scaduto. Professors Ceresole, Alessandrini, Tandoia, Maragliano, Rossi and Spagnolio were among those who read papers at the meeting.

Personal.—A bust of Dr. E. Lang, the founder of the Lupus Institute at Vienna, was recently unveiled at the opening of the new carbon arc lamp hall.——The Wiesbaden roentgenologist, Prof. Alban Köhler, has been elected an honorary member of the Spanish Society for Radiology and Electrology.——Prof. P. Muhlens of Hamburg has been asked by the government of Jugoslavia to study and report on malaria in that country. He has accepted an invitation to lecture in Barcelona in the fall on malaria, spirochetosis and affairs in Russia.——The king of Spain has decorated with the Grand Cross del Mérito Militar, the following Belgian physicians, in token of appreciation of their services to the Spanish army training camps. Dr. Voncken, Dr. De Block, Dr. Wibin and Dr. Vandermissen.——At the recent annual meeting of the organized ophthalmologists of Germany, the Graefe prize was awarded to Behr of Kiel, Hertel of Leipzig and Köppe of Halle.——The *Ugeskrift for Lager* mentions that Prof. M. H. E. Tscherning of Copenhagen has been decorated by the government of Norway, and Drs. Marner, Hempel-Jörgensen and I. Hansen have been decorated by the Austrian Red Cross.

Deaths in Other Countries

Dr. **W. Gauld,** formerly medical missionary at Swatow, China, died in London, June 14, aged 82.——Dr. **Archibald L. McLean,** at the Royal Prince Alfred Hospital, Sydney, May 13, following a long illness.——Dr. **Alfred Sutton,** Surgeon, A. M. C., of Australia since 1900; was mentioned in dispatches four times during the late war and received several decorations, died recently at Brisbane, Australia.——Dr. **Jacques Bertillon,** aged 71, inventor of the finger print system of identification, which his brother adapted for practical use. He had charge of the bureau of statistics at Paris, in which position his father and grandfather had preceded him.——Dr. **G. Bayer,** director of the hospital at Hannover-Linden.——Dr. **G. Meschieri** of Pollenza, Italian bacteriologist.——The *Dermatologische Wochenschrift* mentions the death of Dr. **E. von Negri** of Amsterdam, known by her works on granuloma malignum, etc., and of Dr. **W. B. Zogbaum** of Christiania, the inaugurator of the first institute in Norway for treatment with radiant energy.

CORRECTION

Appointment as School Health Director in Utah.—In THE JOURNAL, July 8, page 142, it was stated that Dr. C. C. Jensen, Riverton, Utah, had been appointed as state director of health education. The item should have said that C. N. Jensen, Ph.D., state superintendent of public instruction at Salt Lake City, would hold this position.

Government Services

Organization of New Reserve Units

The Surgeon-General of the Army announces the authorization of the following new units in the organized reserve: General Hospital No. 51 (Georgetown University School of Medicine); General Hospital No. 52 (Syracuse University School of Medicine); Surgical Hospital No. 15 (Italian Benevolent Institute and Hospital, New York); Evacuation Hospital No. 20 (Flower Hospital Unit, New York); General Hospital No. 54 (State University of Iowa College of Medicine); General Hospital No. 6 (Massachusetts General Hospital Unit); General Hospital No. 48 (Metropolian Hospital, Department of Public Welfare, New York), and General Hospital No. 53 (St. Louis University School of Medicine).

Vocational Training of Veterans

Figures just issued by the U. S. Veterans' Bureau show that a total of 601,515 veterans of the World War have applied for vocational training, of which number 312,930 applications have been approved. In addition to the 30,000 factories and industrial organizations which are affording placement training to the 36,704 veterans, there are 3,228 institutions engaged in the work of remaking men who are disabled or partially disabled. Of this number, there are 162 universities, 253 colleges, 98 state normal schools, 1,041 commercial schools, 244 public schools, and 266 institutions teaching miscellaneous subjects. Of these, 49 are government institutions. The number receiving instruction has almost doubled in the period from July, 1921, to May, 1922. July 1, 1921, there were 85,338 men actually taking vocational training, and on May 1, 1922, there were 108,919.

Chicago U. S. Veterans' Bureau

The District Office at Chicago (No. 8) has moved from the Leiter Building to the Butler Brothers Building. The cooperation section of the administrative division occupies space on the tenth floor, approximating one half of a city block, while the district office occupies the entire eleventh floor. The change was made in accordance with the general economic program now being practiced by the bureau. It is estimated that between $100,000 and $150,000 a year will be saved in rental alone.——Col. C. R. Forbes, director of the U. S. Veterans' Bureau, made an inspection trip to District 8 recently. He inspected the new offices and the new site for the $3,000,000 hospital for neuropsychiatric cases, to be established at Great Lakes. He expressed himself well pleased with the morale and the conditions of the district, and addressed a communication to this effect to all of the employees of the district, thanking them for their service and cooperation.

Hospital for Tuberculous Service Men

A 500-bed hospital, costing $1,500,000, for former service men suffering with tuberculosis will be erected at Tupper Lake, N. Y., instead of the proposed 250-bed institution at Liberty, N. Y., according to an announcement made by Acting Director Rogers of the U. S. Veterans' Bureau. Mr. Rogers also announced that the Veterans' Bureau is to turn over to the Treasury Department the sum of $750,000, to enable it to increase the capacity of the hospital to be erected at Chelsea, N. Y., from 250 to 500 beds, making the total cost of the Chelsea hospital $1,500,000. These projects when completed will give the New York district facilities for caring for 1,000 tuberculous patients. Decision to abandon the proposed site at Liberty, N. Y., it was explained by Director Rogers, was made on recommendation of the General Hospitalization Board. It was found that the land there was unsuitable and the 150 acres at Tupper Lake, to be donated by the chamber of commerce of that town, was selected instead. Survey of the land at Tupper Lake is already under way and bids for the construction of the new hospital will be called for shortly. Assistant Secretary of the Treasury Clifford also announced that the Treasury Department had selected the Hall property at Aspinwall, Pittsburgh, as a site for a new veterans' hospital, to care for disabled ex-service men of the Pittsburgh district. The institution will contain 250 beds and will cost approximately one million dollars

The Hall property consists of 145 acres overlooking the Alleghany River. With the location of this hospital, the Treasury Department has completed its program for hospital construction under the act passed by Congress last year appropriating the sum of $18,600,000. Since then $35,000,000 has been appropriated by Congress, the matter of its expenditure being placed in the hands of the U. S. Veterans' Bureau. Assistant Secretary of the Treasury Clifford gave out information to the effect that the Perryville, Md., project, increasing the size of the veterans' hospital there by 300 additional beds had been completed. The Bronx Hospital, New York, of 1,000 beds has been completed.

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 26, 1922.

The Prevention of Venereal Disease

The Society for the Prevention of Venereal Disease has made a step forward and promulgated a detailed policy. It takes its stand on three main principles: 1. It is the duty of every good citizen to live a chaste life. 2. It is the office of medical science to prevent the consequences of sexual immorality. According to the Royal Commission on Venereal Diseases, the number of persons affected with syphilis, acquired or congenital, cannot fall below 10 per cent. of the whole population of the large cities, and the percentage of those affected with gonorrhea must greatly exceed this. The tragic fact is that the evil passes to innocent women and children. 3. Venereal disease can be prevented by immediate self-disinfection, provided it is intelligently applied. Self-disinfection may fail by misuse or delay; but this is no argument against its efficacy. The society also insists on the obligation of seeking and testing new measures of prevention. It looks with favor on all curative measures, and heartily approves of venereal clinics. It teaches that instruction in the methods of self-disinfection should not be refused to males who have reached adolescence, to adult women if they desire it, or even to younger persons at the discretion of their parents or those responsible for their welfare. It advocates the propagation of such knowledge as may tend to diminish venereal disease and its grave consequences by lectures and leaflets, assuming that the lectures are attended and the leaflets received only by such persons as have reached adolescence.

Following this preamble, the society's policy is laid down under five headings: 1. To instruct the public as to (*a*) the great importance of self-disinfection at the time of exposure and (*b*) the methods of doing this. 2. To give such instruction only to men above the age of 18, to adult women on demand, and to younger persons in special cases at the discretion of those responsible for their welfare. 3. To insure the sale of the disinfectants required with full instructions to such persons and to such persons only. 4. To convey instructions regarding the nature and application of such disinfectants to such persons (1) by leaflets supplied (*a*) with disinfectants at the time of sale, and (*b*) by attendants at public conveniences on demand; (2) by lectures; (3) by medical officers of venereal clinics; (4) by officers or officials in charge of naval, military, and industrial units. 5. To advocate such further steps for the prevention of venereal disease as may from time to time be deemed advisable by the executive committee.

Medical Society for the Study of Venereal Diseases

A meeting has been held in London at which it was decided to form a medical society for the study of venereal diseases. The chairman, Dr. David Watson of Glasgow, stated that those engaged in venereal work had expressed a desire for a society in which these diseases would receive due consideration. A constitution was adopted and it was agreed that, subject to the approval of the council, local divisions of the society may be formed. The question of the publication of a journal was remitted to the council for consideration. The officers elected to act until the first general annual meeting, to be held in July, were: president, Dr. David Watson, Glasgow; vice presidents, Dr. Wilfred Fox and Mr. F. S. Kidd, London; committee, Dr. Mary Liston, Edinburgh, Mr. D. Vinrace, Dr. D. Wyndham Powell and Col. L. W. Harrison, London; secretary and treasurer, Mr. E. R. T. Clarkson, London.

Protest Against a Medical Play

An English version of Baron Rothschild's play "Le Caducée" is to be produced in London. It may be remembered that the principal character is a fashionable surgeon who is a scoundrel. He performs unnecessary operations from which patients sometimes die, and he divides the fees with obscure physicians. He invites newspaper representatives and photographers to his operations in order that they may advertise him. The *British Medical Journal* has made a protest against the play. It holds that "the whole atmosphere of the play is distasteful to any one to whom the honor of the medical profession has a meaning at all, besides being grossly untrue to life." It has also been pointed out in the press by a physician that anything that tends to lower a patient's confidence in medical advice when an operation is necessary is to be deplored, as the sick require all the moral support that can be obtained. On the other hand, Dr. Arthur Bourchier, who is producing the play and taking the rôle of the surgeon, declares that there are black sheep in every flock and that the play represents the black sheep as he works in Paris and, no doubt, in London. He fails to see why the public should not be warned against such villains. As Baron Henri de Rothschild is a physician, he knows what he is writing about. Mr. Bourchier added that a special performance had been arranged in aid of the funds of Guy's Hospital.

Protection of the Race Against Multiplication of Mentally Defective

Mental deficiency is hereditary and those who suffer from it are prolific, more prolific than the general public, as the moral and economic restraints which diminish fecundity do not come into play. Their multiplication is not only a burden to the community but tends to deteriorate the race. In a series of articles, this evil has been discussed in the *Morning Post*, and the suggestion of Sir Archdall Reid, that all mental defectives should be sterilized and thus rendered incapable of propagation, is recommended. A correspondence in which many well known persons joined shows that public opinion in this country is not ripe for such a remedy. In the United States, legislation has gone to the extent of permitting compulsory sterilization, but it is not employed. The patient is consulted or, if his mental powers do not allow this, the question is submitted to his relatives.

Dr. A. F. Tredgold, a well-known expert on mental deficiency, points out that segregation is just as efficient as sterilization and has other advantages. All mental defectives are incapable of maintaining existence and at the same time conforming to the laws of the community without some amount of control, either for their own protection or the protection of others. Many spread venereal disease and many commit crimes. Hence, a considerable proportion should be detained in institutions, even if they are sterilized. Dr. Tredgold states that there are thousands of defectives in this country who, either for their own sakes or for that of the public, should be in institutions, and the failure to provide

accommodation on the ground of economy is an extremely short-sighted policy. He does not consider it possible to apply sterilization to all grades of mental defectives without risk of including nondefectives. In the case of idiots and imbeciles, diagnosis is easy, and such risk does not exist. But these classes comprise less than one fourth of the total number of defectives. Many of them are naturally sterile and therefore do not need the operation. The great danger of propagation arises in the class of the feebleminded, to which fully three quarters of all defectives belong and which is highly prolific.

Diagnosis in these cases may be very difficult. During the unstable period of adolescence, there are many varieties of mental abnormality, readily confused with defect, which are often temporary and amenable to treatment. There is, moreover, a very large class, known as "border-landers," who occupy a position between defectives and normal persons. While considering sterilization justifiable and advisable in particular cases of defect, Dr. Tredgold points out that it does not remove the necessity for segregation and institutional care in a large proportion of cases.

PARIS

(From Our Regular Correspondent)

June 23, 1922.

Cancer in France

More than half of Volume 5 of the new Traité de Médecine, recently published under the supervision of Profs. G. H. Roger, F. Widal and P. J. Teissier, by Masson et Cie, is devoted to the study of cancer. The authors, G. Roussy, associate professor of the faculty of medicine of Paris, and Maurice Wolf, former head of the department of pathologic anatomy of the faculty of medicine of Strasbourg, discuss our present knowledge of cancer from various standpoints: biologic, anatomicopathologic, clinical, experimental and therapeutic. To this, Roussy and Wolf have added an interesting chapter on cancer viewed from a social standpoint, including statistics and information concerning the campaign against cancer as it is organized in various countries. It is interesting to note what has been done in France along these lines.

CANCER STATISTICS IN FRANCE

Roussy and Wolf begin by stating that the French are not fond of statistics, and that few statistics are published in France as compared with America, England and Germany, where statistical researches occupy an important place in medical science. Whatever may be their value, the official statistics furnished by the ministry of the interior concerning mortality due to cancer in France from 1906 to 1916 are here presented.

NUMBER AND PROPORTION OF INHABITANTS DYING FROM CANCER

	Total Number of Deaths			Proportion per Thousand Inhabitants		
	Communes			Communes		
Year	Cities of 5,000 or More	of Less Than 5,000	Total for All France	Cities of 5,000 or More	of Less Than 5,000	Total for All France
1906	14,339	12,967	27,306	1.00	0.52	0.70
1907	14,384	14,900	29,284	0.99	0.60	0.75
1908	14,752	15,367	30,124	1.01	0.62	0.76
1909	14,907	15,738	30 645	1.01	0.63	0.77
1910	15,256	16,047	31,303	1.02	0.65	0.79
1911	15,897	15,871	31,768	1.04	0.65	0.80
1912	15,979	15,894	31,873	1.05	0.65	0.80
1913	16,429	16,405	32,834	1.08	0.67	0.83
1914	14,202	12,274	26,476			
1915	10,191	10,790	24,367			
1916	14,407	10,920	25,327			

Large cities have, as a rule, a greater cancer mortality than small cities. Thus, in 1913, the proportion of deaths due to cancer per thousand inhabitants was: cities of from 100,001 to 551,000, 1.20; 30,001 to 100,000, 1.17; 20,001 to 30,000, 1.07; 10,001 to 20,000, 1.05, and 5,000 to 10,000, 0.79. The percentages of deaths from all causes due to cancer in France were: 1906, 3.51; 1907, 3.69; 1908, 4.05; 1909, 4.06; 1910, 4.41; 1911, 4.10; 1912, 4.60; 1913, 4.67; 1914, 3.82; 1915, 3.85, and 1916, 4.27.

Present Status of the Campaign Against Cancer

With the beginning of the twentieth century, the campaign against cancer received a new impulse, which became manifest in France, England and the United States at approximately the same time. Dr. Roussy, who was entrusted with a scientific mission to America (THE JOURNAL, Jan. 22, 1921, p. 257) lauds "the spirit of organization and method prevailing in the United States" which has made possible the creation, in New York, Chicago, Boston, Buffalo, St. Louis and other cities of many hospitals, institutes and laboratories admirably organized for the study of cancer. "In France," Roussy and Wolf state, "we must frankly admit that we have been left far behind." It is only during the last few years that the movement in favor of the campaign against cancer began to materialize. The department of public welfare of Paris opened cancer services at the Brévannes and the Salpêtrière hospitals, but these services lack resources and equipment. The general council of the department of the Seine made the necessary appropriation in 1921 for the creation of a service for the treatment of cancer in the Paul-Brousse Hospital at Villejuif. This service was placed under the direction of Dr. Roussy, and opened in October, 1921. The municipal council of Paris showed its interest in the movement by purchasing 2 gm. of radium and by instructing the department of public welfare to organize in its hospitals centers for the treatment of tumors with radium and roentgen rays. Two of these services are in operation at present, at the Hôtel-Dieu and at the Tenon Hospital. The Radium Institute of the University of Paris, annexed to the Sorbonne, comprises a physical laboratory in charge of Madame Curie, and a biologic laboratory in charge of Regaud. This laboratory comprises a department of physics (roentgen rays and radium), a department of pathologic anatomy (histology, biopsy), and an experimental and therapeutic department (roentgen rays and radium). The Radium Institute has also a collection of anatomic specimens and a library. To the institute is annexed a patients' service in the Pasteur Hospital with consultation for outpatients. We must also mention two associations for the study of cancer. One, the Association française pour l'étude du cancer, founded in 1908 by Prof. Pierre Delbet, is above all, a scientific society, publishing a monthly bulletin in which appear works pertaining to cancer. The other association was founded during the war by Professor Hartmann, and is called the Ligue franco-américaine contre le cancer. It deals especially with the sociological aspects of the campaign again cancer. I have mentioned in previous letters various forms of its activity.

Table Utensils and Contagious Diseases

Table utensils play an important rôle in the diffusion of contagious diseases, and I recently mentioned the poor conditions under which washing of glassware is done in restaurants (THE JOURNAL, March 4, 1922, p. 666). Drs. Dejust, Wibaux and L. Dardel recently presented an interesting communication concerning pathogenic bacteria on table utensils and the best methods of disinfection. They studied the conditions under which a glass article can be rid of bacteria by the use of running water, by running water plus rubbing, or by the use of a soap solution, these methods being followed or not by drying with a cloth. This research disclosed the slight efficacy of washing with water even when it is accom-

panied by rubbing. Of thirty articles of glassware soiled by cultures of *Bacillus prodigiosus* and washed with water without being wiped, twenty-two were still infected with the bacilli. On the other hand, of twenty-four such articles washed in the same way but wiped, only five remained infected. Of six articles washed with a 2 per cent. soap solution without being wiped, five presented the bacilli, while of twenty-two articles washed with a 2 per cent. soap solution, followed by wiping, none showed *B. prodigiosus*. The influence of drying with a cloth is obvious, especially when it follows washing with soap.

The Physical Reeducation Centers

The army recruiting bill contains an innovation which is being sharply criticized. Criticism is directed against the "reeducation centers" established for young men who are neither accepted for service nor exempted but are referred to another examination later. The postponement is based on their lack of physical development owing to defective living conditions, or unhygienic surroundings, or the fact that their physical condition, while temporarily below par, owing to a recent illness, appears susceptible of rapid improvement. The committee on hygiene of the chamber of deputies considers this innovation open to criticism. Monsieur Justin Godart, chairman of the committee and former undersecretary of state of the sanitary service, stated that these reeducation centers are to receive convalescents and weakly young men who have been brought up in a poor environment. But how, in practice, can we distinguish between these two classes of young men? If their condition must be the result of "defective living conditions or unhygienic surroundings," inquiry must be made concerning their home environment and their surroundings at work. As regards convalescents, it would probably be preferable to let them remain at home instead of transplanting them, while at their lowest point of resistance, to a collective mode of existence, which always entails a critical period of adaptation and presents dangers of contamination. Thus, the committee on hygiene of the chamber of deputies opposed the creation of these reeducation centers as dangerous and likely to entail unnecessary expense since their purpose would be to complete regimental ranks rather than to fill an urgent need. Dr. Sabatier, medical inspector in chief, with the rank of brigadier general, is also of the opinion that the army is not qualified to undertake to give to underdeveloped young men as a class the physical development required to make them fit. As there would be many young men of delicate constitution to deal with, it is to be feared that the reeducation centers would not accomplish their purpose and would, unless carefully supervised, entail the care of many patients, and many pensions and deaths.

Proprietaries and the Academy of Medicine

I mentioned recently the protest of the *Journal des Praticiens* based on the fact that certain communications presented to the Academy of Medicine, while seemingly of a scientific character, in reality served as an advertisement for new pharmaceutic specialties (THE JOURNAL, June 3, 1922, p. 1735). A recent occurrence supports their contention. The *Bulletin de l'Académie de Médecine* of March 28 contains a communication by Dr. E. Doumer, professor in the medical department of the University of Lille, concerning the good results secured from the use of paper compresses impregnated with a mixture of a certain acid and paraffin in the treatment of rheumatism and gout. Immediately, Paris physicians received a reprint of the article contained in the *Bulletin*, together with a circular giving the address of the manufacturer of the compresses, the price per package, etc. The *Journal des Praticiens* remarks in an editorial: "It is impossible to imagine a more shameless use for commercial purposes of a supposedly scientific communication, and a more flagrant attempt to derive a commercial advantage from the prestige of the Academy of Medicine." The *Journal des Praticiens* requests a modification of the academy's rules, so that a communication concerning a new remedy must first be submitted to a committee, which would take all necessary precautions to inquire into the subject. If presentation of the communication is authorized, the author would be requested not to abuse the authority "and thus transform the Academy of Medicine into a sort of broker's office to help the sale of a pharmaceutic specialty."

Award of Hanbury Gold Medal to Professor Perrot

The Hanbury gold medal has been awarded to Prof. Emile Perrot, professor of the faculty of pharmacy of Paris, for his works on medicinal plants and materia medica in general. This medal commemorates the works of the famous English naturalist, and is awarded every two years to promote and reward original researches in the chemistry and natural history of drugs.

New Genito-Urinary Journal

The first number of a new medical journal entitled *Archives des Maladies des Reins et des Organes Génito-Urinaires* has just been published. This publication is under the direction of Prof. L. Ambard of Strasbourg and Dr. E. Papin of Paris, and will appear in volumes of 128 pages, six times a year. (G. Doin, publisher, 8 Place de l'Odéon, Paris.) The first number contains a study by Papin and Ambard on the innervation of the kidneys; an article by Pasteau on the treatment of traumatic stricture of the ureter; another by Verliac on the value of laboratory research applied to diagnosis of tuberculosis of the kidney, and an essay by Ambard and Lux on diabetes insipidus. The first number is devoted to original articles, but the publishers intend to put the reader in touch, in the following numbers, with all the works concerning the kidneys and genito-urinary organs, and to give an extensive bibliography, as well as general reviews and clinical, therapeutic and technical laboratory data of interest to urologists.

Tribute to Cajal

Prof. Ramon y Cajal of Madrid has been granted an honorary degree by the council of Bordeaux University.

VIENNA

(From Our Regular Correspondent)

June 23, 1922.

Convention of the German Gynecologic Society at Innsbruck

The third Austrian university town, Innsbruck, was selected by the German Gynecologic Society as a meeting place for its yearly convention at this time. Owing to the pressure of time—it lasted only three days, June 8-11—and to the hardships of travel in central Europe, little attention was paid to purely social activities, more earnest work being the aim. Surgeons from northern Europe, Switzerland, Japan, Jugoslavia and America were present. More than 208 papers were presented, exceeding the number read at any previous meeting of the society. The young men were in the majority at the convention, because the older men were unfitted for the hardships attending the journey and the overcrowded conditions of the city. Thus, their ripe opinion had to be foregone. The papers were divided under four heads: treatment of cancer by actinic methods (radium or roentgen rays), the mechanism of labor, internal secretion, and the treatment of infection following abortion. At the convention in Halle nine years ago, radiotherapy seemed to promise a new era in the problem of cancer of the genital organs; but at this year's meeting the high expectations met with disappointment. Professor Bumm of Berlin pointed out that

the results obtained by a number of competent observers have shown clearly that, in selected cases, a permanent cure can be obtained by means of radiotherapy alone or in combination with surgery; but it is far from being a cure for more than a modest percentage of cases. An interesting addition to the instrumentarium of the radiologist is an invention by three Innsbruck physicians, demonstrated at the congress, which employs the spectroscope of the roentgen rays to measure their intensity. Thus, a simple and effective control of the dosage is obtained. In the second group of papers, Dr. Warnekros of Berlin challenged the teaching of Sellheim of Halle. He had studied the different phases of labor, as well as the conditions during the last weeks of pregnancy, by roentgenograms, and he attributed a liberal share of the work necessary for the expulsion of the fetus to energy stored in the joints and ligaments of the pelvis. However, the majority of those present favored Sellheim's theory.

The problem of internal secretions was discussed in a number of papers, Halban, Aschner, Fellner and Hofmann contributing to the discussion. No new point of view was brought out. The correlation between ovary and thyroid, ovary and pituitary gland, and the corpus luteum and the uterine mucous membranes formed the subject of some interesting papers by clinical assistants. At present, the situation is best termed as being still "in statu nascendi," in spite of the amount of knowledge accumulated within the last ten years. Much time was taken up by the discussion of the treatment of puerperal sepsis (infection following abortion) and the justification of interruption of pregnancy. Early surgical interference together with vaccine treatment was urgently recommended, while a number of men, including Dr. Menge of Heidelberg and Dr. Kupferberg of Mayence, were strongly opposed to the lenient or, as it was termed, unlawful attitude of the practitioner toward destruction of fetal life. It may, however, be added here that at present there is an inclination among the legislators of Central Europe to make the interruption of pregnancy a legitimate procedure in many more or less suitable cases.

Besides these four groups of papers, several interesting papers were read, among them one by Novak of Vienna on parthenogenetic generation in rats, by Werner on tuberculosis of the female organs and by Graff on the use of oxygen to inflate the tubes and control their permeability. Thaler has succeeded in establishing regular periods in several cases of amenorrhea, with the aid of a weak (irritative) dose of roentgen rays. Zacherl's (Graz) results in treating myomatous growths with radium are very encouraging. Marked interest was evoked by the cinematographic methods of teaching used now in Vienna. Professor Weibel presented his films, one showing the exact details of an operation for cancer of the uterus (Wertheim's operation). Another one showed the development of the human ovum and its fertilization, as demonstrated in the students' classes here. Professor Frankl presented his models of human and animal embryos from the very earliest stages. Dr. Kogerer read a paper on posthypnotic painless childbirth, which caused quite a heated discussion. The next convention is to meet at Heidelberg.

Austrian Professors Lecturing Abroad

In the last year, several professors of Vienna University have been invited to lecture at foreign universities as a recognition of the high esteem of the standard of research in this city. Dr. Lorenz, who visited the United States, met more or less marked opposition. Others, for example, Fuchs, have met only adherents. Fuchs lectured in Spain and South America, and is now in the United States. Professor Haber lectured in Spain, on modern surgery; while Frankl, the gynecologic researcher, went to Dublin. Professor Ruttin, the otologist, well known to many men studying in Vienna in the Allgemeines Krankenhaus, lectured in Holland and others are called to Roumania and Warsaw. A series of exchanges has been arranged between German and Austrian universities, and students also will profit by frequent exchanges. Here the minor German universities chiefly are under consideration, and it is expected that such arrangements will bring about uniform methods of scientific instruction in these countries.

The Relative Frequency of Progressive Paralysis in Vienna in the Last Twenty Years

Professor Pilcz, working in the statistical office of the ministry of health, and in the clinic for mental diseases of Vienna, has undertaken the task of ascertaining whether the condition known as progressive paralysis is increasing. Several authors have answered this question in the affirmative, and it is rather difficult to weigh such statements simply by considering the case histories. It must not be forgotten that the relative frequency of such cases in the hospitals for the insane depends on the kind and number of patients housed in such institutions altogether. Thus, Kraepelin says that care must be exercised in giving the diagnosis, as well as the incidence, of syphilitic infections per se, before conclusions as to an increase or decrease can be reached. Professor Pilcz has examined the records of the Vienna hospitals for the insane since 1902, and has computed the number of cases of progressive paralysis in proportion to the number of lunatics admitted, also to the entire population, and furthermore to those of the ages of from 30 to 50 years, and in respect to sex incidence. He found that, while, in 1902, out of 794,770 males and 906,000 females living in Vienna, 683 males and 510 females were admitted, among whom were 217 and sixty-seven, respectively, classed as suffering from progressive paralysis (273 and seventy-four, respectively, per 10,000 of the entire population), in 1912, the figures were 978,655 males and 1,093,000 females, with about 388 cases of males and 114 of females diagnosed as progressive paralysis admitted to the asylums, or 396 and 104 per 10,000. In 1921 the figures were 851,302 males, 990,024 females, with 224 and eighty-seven cases, respectively, or 263 and 87 per 10,000. His investigations tend to show that, for about fifteen years, a constant, well marked drop in the relative incidence of these patients is noticeable, being most evident in the years 1920 and 1921. This subsidence appears even more marked in persons of from 30 to 50. Here the percentage of progressive paralysis among all insane patients dropped from 1,536 per 10,000 for males in 1910 to 789 in 1921, and from 359 to 260 for females. The years of the war show a variation, as the number of mentally defective is very high, and the number of those suffering from progressive paralysis is relatively low. The conditions are nearly the same among the rural population as far as could be ascertained by the case histories, so that the working of the same factors may be assumed. It appears that, in Vienna at least, a marked drop in the number of cases of general paralysis of the insane is evident. The explanation cannot be sought in more efficient diagnosis; it is possible that the "genus morbi" has changed, just as the character of syphilis has changed within the last few years, and that fewer syphilitics fall victims to progressive paralysis, for unknown reasons. Thus, for instance, Mattauschek could show that out of 617 officers of the Austrian army treated for syphilis in the five years from 1884 to 1889, sixty, or 7.72 per cent., developed progressive paralysis; but of 1,139 officers treated from 1894 to 1899, only thirty-seven, or 3.25 per cent., suffered in the same way. Perhaps the low figures for 1920 and 1921 are the result of the malarial treatment of large parts of the populations instituted a short time ago, when many soldiers suffered from malaria and

syphilis in combination. Professor Pilcz has renewed and continued investigations of these problems every ten years in order to clear up this riddle.

BUENOS AIRES

(From Our Regular Correspondent)

May 21, 1922.

Medical Congresses

The organizing committee of the Sixth Latin American Medical Congress, which will be held at Havana in November, has appointed the following Argentine committee: Drs. M. Castex, E. B. Demarta, D. Cabred, S. Mazza, A. Sacco, J. Ingenieros, P. Chutro, B. A. Houssay, D. Cranwell, C. Jacob, M. Acuña, F. Iribarne, H. Caretti, A. Oyenard, J. Llambias, C. Bonorino Udaondo, M. V. Quiroza, G. Bosch Arana, F. Rosenbusch, J. A. Dominguez and J. Arce.

The Second National Medical Congress will be held in October. The subject which will be discussed by all the sections is "Echinococcus Disease."

More Quarantine Stations

The national government has already equipped properly the two quarantine stations at Jujuy and La Rioja. In addition, two disinfecting stations have been equipped at Chilecito and Olata. Another quarantine station will be soon established at San Luis, a special building being constructed for this purpose.

Importance of the Suprarenal Medulla

Drs. Houssay and Lewis have kept alive fifteen dogs deprived of the whole left suprarenal medulla and the right suprarenal capsule. These animals lived perfectly without showing asthenia, decreased tension or any other trouble; but as soon as the remaining suprarenal cortex was removed, the dogs died, in from twenty-two to twenty-six hours. These experiments show that the existence of the cortex is necessary to life, but the medulla does not fill any essential rôle. In all cases, serial tissue examinations were made.

Smallpox

The smallpox epidemic still persists in the province of Cordoba, where many of the inhabitants are opposing vaccination, which is precisely contrary to conditions on the coast. The disease has appeared at Zapala and Minas (Neuquen), and near the Chilean border.

New Hospitals

The new buildings for the Misericordia and San Juan de Dios hospitals, at La Plata, have been officially dedicated. The Misericordia Hospital is connected with the Policlinico, where a radium institute for cancer has just been established. The Policlinico Hospital is now cooperating with the La Plata Medical School.

Medical Schools

At the Buenos Aires Medical School, Dr. Julio Iribarne was unanimously elected dean. Dr. Iribarne is a young assistant professor who has shown himself very active in reform movement in the last few years. The new budget carries larger appropriations, and it is intended to enlarge some courses, reduce the number of pupils (5,000) and increase the salaries of professors. It is expected the proposed changes will benefit both teaching and research work.

At Cordoba, the student strike has just been called off.

Prof. George F. Nicolai, from Germany, who has been engaged to teach physiology, has just arrived. Dr. Nicolai, whose pacifist views gained him much publicity during the war, became known for his research work in physiology of the heart and electrocardiography, although of late he has been doing clinical work.

At the Rosario Medical School, an attempted strike has just failed. The students became incensed at the government for appointing directly the first directing board of the schooi and the dean.

Tribute to Dr. Lorentz

The societies of public health and biology have rendered a public tribute to the memory of the late Dr. Emilio Lorentz. Although his death was untimely, he had already distinguished himself as a competent and painstaking research worker. Together with Dr. I. Aphatie, he discovered, after Ghedini and before Weinberg, the reaction of complement fixation for the diagnosis of echinococcus disease, besides carrying out several immunologic (Wassermann test) and bacteriologic investigations. He was the director of the army laboratory.

BERLIN

(From Our Regular Correspondent)

June 24, 1922.

Retirement of Professor Rubner

Rubner the physiologist, of the University of Berlin, having completed his sixty-eighth year, will be retired from his position, October 1, under the old age pension act. Rubner has been an instructor in the University of Berlin since 1891. The professorial chair that was created for and by Robert Koch was held by him only a few years. One reason for this was that there were many fields of hygiene in which he took no particular interest; then, again, he did not find in the imparting of instruction the pleasure that some men do. Consequently, Rubner—a pupil of Voit and Ludwig—who had already won a reputation by his excellent work in the field of physiology pertaining to nutrition, was appointed to take his place. As a result of his previous training, the predominant factor and the main interest of Rubner's work lay in the domain of physiology. Therefore, after the death of the physicist Engelmann, he was glad of the opportunity that thus arose of securing the chair of physiology in Berlin. His transfer from one chair to another has another point of interest, since at the suggestion and under the direction of Rubner a new hygienic institute was built. But when Rubner changed chairs, he also changed institutes, so that the old hygienic institute, which had formerly, under du Bois-Reymond, been established as the physiologic institute, was placed at the disposal of Flügge, who succeeded Rubner. It will doubtless be remembered by some that when Rubner was called to succeed du Bois-Reymond, it caused some public excitement, not only on account of prospective buildings and equipment, but also because of personal considerations. Hermann Munk, who at that time was professor of physiology at the Tierärztliche Hochschule in Berlin, was recognized as having a strong claim on the chair. It is still uncertain who will become Rubner's successor. The Halle physiologist Abderhalden would seem to deserve first consideration, and perhaps Höber, who occupies in Kiel the chair of physical medicine, may be in line.

Scurvy in Germany

In addition to the cases of scurvy reported in a previous letter, a number of others have arisen. Professor Umber, director of the Charlottenburg Hospital, recently presented a number of patients at a meeting of the Berlin Medical Society. He stated that not only had the subject of scurvy never been discussed before the Berlin Medical Society, as far as he knew, since the sixties, but that he himself, during his long practice extending over many decades, had but recently seen the first scurvy patients (seven severe cases since the first of January). Others reported their observations on scurvy in Berlin and other large German cities. All were agreed that the cases were due to lack of fresh vegetables and the consequent deficiency in vitamins in the diet.

Umber stated that he had brought about a rapid recovery of the patients by prescribing a decoction of pine needles. This remedy was first proposed by a Swedish military surgeon, who applied it during the expedition of Charles XII to Russia. The needles are pounded with a pestle, and a "tea" is made from them.

State Institute for the Study of Efficiency Engineering and Industrial Hygiene

A recognition of the importance of industrial psychology, which, owing to the influence of propaganda from America, is coming to the front here more and more, is the underlying factor that has induced the head committee of the Prussian legislature to adopt unanimously the suggestion of the minister of public welfare that a state institute for the study of labor problems and industrial hygiene be created. The need of applying psychologic principles to all industries was discussed at length, and special reference was made to the excellent results secured in America by the introduction of a practical system of psychology—more particularly, the Taylor system. The Greater Berlin Street Railway Company, by training motormen in accordance with modern psychologic, scientific principles, effected a saving of 12,000,000 marks for the last fiscal year, while the number of accidents was also materially decreased. With greater efficiency, a saving of 10 per cent. in the amount of electric current required was brought about, and the wear and tear on the rolling stock and the roadbed was distinctly reduced. Another great gain lay in the fact that with the application of scientific, psychologic principles the motormen and conductors could be trained for the work in one third the time formerly required.

Marriages

HERBERT FAY HEMPSTEAD JONES to Miss Edna Marie Penick, both of Little Rock, Ark., June 15.

J. HOWARD VAN NESS to Miss Elizabeth Maentz, both of Allegan, Mich., at Battle Creek, June 15.

MERLIN JONES STONE, Ogden, Utah, to Miss Corynne Constance Wall of Temple, Texas, July 8.

JAMES RUSSELL YOUNG, JR., Rexburg, Idaho, to Miss Eve English of Pocatello, Idaho, recently.

ELLSWORTH JOHNSON, Windom, Minn., to Mrs. Carolyn H. Clark of St. Cloud, Minn., in June.

LEO JOSEPH STARRY, Oklahoma City, to Miss Maree Patch of Colorado Springs, Colo., June 21.

WILLIAM H. SPEITH, Indianapolis, to Miss Viva Pearl Wilson of Roachdale, Ind., June 25.

ELMER HARRY HANSEN, Minneapolis, to Miss Mary E. O'Brien of Cloquet, Minn., in June.

LOUIS CHARLES LEHR, Washington, D. C., to Mrs. Eleanor Moale Hillen of Baltimore, July 1.

BURTIS E. GOLDBERG to Miss Helen Cleave Anderson, both of Arlington, N. J., June 29.

ALFRED H. BUDGE, Boise, Idaho, to Miss Bernice Rickert of Waterloo, Iowa, June 30.

GEORGE STARR WHITE, Los Angeles, to Miss Deborah Logan of Oxnard, Calif., recently.

THOMAS H. MORRIS to Miss Ruth Compton, both of Plainfield, N. J., June 6, 1922.

ALBERT G. PETERS, Pontiac, Ill., to Miss Evelyn Cole of Decatur, Ill., June 17.

WILLIAM F. CLEVENGER to Miss Louise M. Weaver, both of Indianapolis, July 5.

ATTILIO ROBERTIELLO, New York, to Miss Eleonora Candela of Brooklyn, July 5.

LEON S. SEIDLER to Miss Edith Freudenberg, both of Chicago, July 2.

ROY SEXTON to Mrs. Mary Harvey, both of Streator, Ill., July 3.

Deaths

Edmund James Armstrong Rogers ✱ Denver; McGill University Faculty of Medicine, Montreal, 1881; L.R.C.P. and L.R.C.S., Edinburgh, Scotland, 1881; formerly a civil engineer; emeritus professor of surgery at the University of Colorado; surgeon to St. Luke's Hospital and the Colorado Sanitarium; served three terms on the state board of health; governor of the Colorado Society of Colonial Wars, 1900; president of the Colorado State Medical Society, 1903-1904; member of the British Medical Association and the American Climatological Society; died, July 3, aged 70.

William John Maroney ✱ New York; Yale University School of Medicine, New Haven, Conn., 1890; member of the New York Obstetrical Society; formerly assistant professor of obstetrics at the Fordham University School of Medicine; on the staffs of St. Ann's Maternity Hospital, the New York Foundling Hospital and St. Vincent's Hospital of the City of New York, where he died, July 10, aged 49, following an operation for perforated diverticulum of the sigmoid.

Gaylor Joel Pettit ✱ New York; New York Homeopathic Medical College and Hospital, New York, 1896; U. S. Naval Reserve Corps; in charge of the naval hospital at Portsmouth, Va., during the World War; died of strangulation caused by abscess of the larynx, on board the U. S. S. *St. Paul*, of which he was ship surgeon, at Hamburg, Germany, June 21, aged 55.

George Eaton Simpson ✱ Howard, R. I.; Medical School of Maine, Portland, 1899; member of the American Medico-Psychological Association and the New England Society of Psychiatry; for sixteen years assistant superintendent of the State Hospital for Mental Diseases; died, July 9, aged 41, following a long illness.

Calvin Pratt, Bridgewater, Mass.; Medical School of Harvard University, Boston, 1866; member of the Massachusetts Medical Society; Civil War veteran; formerly president of the board of trustees of the Bridgewater Academy, and consulting physician of the Bridgewater State Farm; died, June 17, aged 78, from heart disease.

David Michael Roudabush, Williamsport, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1906; member of the Medical Society of the State of Pennsylvania; aged 42; was electrocuted, July 3, when he accidentally picked up a live wire in the cellar of his home.

Lucian Nicholson, Paris, Texas, Chicago College of Medicine and Surgery, Chicago, 1915; member of the State Medical Association of Texas; on the staff of the Sanitarium of Paris; city health officer; died, May 4, aged 33, from multiple abscesses of the lungs.

William James Wanless, Shangli-Miraj, India; University of the City of New York, 1889; formerly of Toronto; medical missionary for the Board of Foreign Missions of the Presbyterian Church in the United States; died recently in India, aged 56.

Charles Adams Gray, Hinsdale, N. H.; Bellevue Hospital Medical College, New York, 1869; member of the New Hampshire Medical Society and formerly president of the Connecticut River Valley Medical Association; died, April 27, aged 75.

William Thomas Jamison, Los Banos, Calif.; Barnes Medical College, St. Louis, 1897; member of the Medical Society of the State of California; died, June 27, aged 51, at the St. Francis Hospital, San Francisco, from chronic interstitial nephritis.

William Richard Jackson ✱ Mobile, Ala.; Medical College of Alabama, Tuscaloosa, Ala., 1888; member of the staff of the City Hospital; formerly professor of surgery at University of Alabama School of Medicine; died suddenly, July 3, aged 58.

Jacob Irving Roe ✱ Wilkes-Barre, Pa.; Medical Department of Columbia College, New York, 1875; on the staff of the Wilkes-Barre Hospital; died, July 2, aged 67, at the Pennsylvania Hospital, from bronchial pneumonia.

Eben Stedman Cox, Galveston, Texas; Louisville Medical College, Louisville, Ky., 1884; member of the State Medical Association of Texas; for twenty years health officer of Galveston County; died suddenly, June 24, aged 63.

✱ Indicates "Fellow" of the American Medical Association.

William L. Dunn, Glade Spring, Va.; Medical College of Virginia, Richmond, Va., 1863; member of the Medical Society of Virginia; Confederate veteran; died, June 26, aged 82, following a long illness.

William Henry Merry, Lynn, Mass.; Medical Department, University of Louisville, Louisville, Ky., 1876; surgeon captain with the British Naval and Military Veterans' Association of Massachusetts; died, June 27, aged 71.

Adrian C. Karsten, Horicon, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1897; member of the State Medical Society of Wisconsin; died suddenly, July 1, aged 56, from cerebral hemorrhage.

Waldo Percy Goff, Clarksburg, W. Va.; Jefferson Medical College, Philadelphia, 1894; member of the West Virginia State Medical Association; died suddenly, July 3, aged 51, from heart disease.

William Henry Grotthouse, Columbus, Ohio; Miami Medical College, Cincinnati, 1893; member of the Columbus Academy of Medicine; also a druggist; died, June 30, aged 53, from carcinoma.

Stephen Longstroth Richards ✱ Salt Lake City, Utah; Ensworth Medical College, St. Joseph, 1893; on the staff of the Latter Day Saints' Hospital; died, July 5, aged 68, following a long illness.

Robert Stewart, Chicago; Rush Medical College, Chicago, 1895; on the staff of St. Bernard's Hospital; died, July 13, aged 58, at the Wesley Memorial Hospital, from tumor of the brain.

Robert Cushman Flagg, Middlebury, Vt.; University of Vermont College of Medicine, Burlington, Vt., 1906; member of the Vermont State Medical Society; died, July 1, aged 44.

Alexander Kemp De Jarnette ✱ Sheridan, Wyo.; University of Louisville Medical Department, Louisville, Ky., 1916; died, June 4, aged 32, at Colorado Springs, Colo.

Matthew Henry Ellis ✱ Albany, Ore.; University of Michigan Medical School, Ann Arbor, 1879; veteran of the Spanish-American War; died, May 31, aged 64.

Roscius Morse, Estacada, Ore.; University of Buffalo Department of Medicine, 1907; died, May 11, aged 46, at St. Vincent's Hospital, Portland.

William V. Hall, Denton, Texas; Medical Department of the University of Tennessee, Nashville, 1884; Confederate veteran; died, June 21, aged 82.

Thomas Joseph Francis Cox ✱ Sacramento, Calif.; Medical Department, University of California, San Francisco, 1896; died suddenly, July 5, aged 49.

John Thomas Frawley, Perry, Ohio; Cleveland University of Medicine and Surgery, Cleveland, 1896; died, June 7, aged 54, from pneumonia.

Albert Benjamin Herrick, San Diego, Calif.; University of Michigan Medical School, Ann Arbor, 1879; died, June 28, aged 70, at Santa Rosa.

Jesse O. Davy, Springfield, Ohio; Medical College of Ohio, 1869; member of the Ohio State Medical Association; died, June 23, aged 71.

Charles A. Groff ✱ Philadelphia; Jefferson Medical College, Philadelphia, 1875; died, July 3, aged 75, from disease of the liver.

Otto Henry Rohde, Los Angeles; Eclectic Medical College of the City of New York, 1896; died, June 24, aged 76, at Hollywood.

Thomas C. Craig, Easton, Kan.; Medical College of Virginia, Richmond, Va., 1867; Confederate veteran; died, June 29, aged 78.

James C. Sharp, Alma, Ark.; Medical Department University of Tennessee, Nashville, Tenn., 1892; died, July 7, aged 53.

Lawrence Whiteford Nettles, Camden, S. C.; College of Physicians and Surgeons, Baltimore, 1885; died, June 26, aged 69.

Abner B. Everitt, Toledo, Ohio; Medical Department of Western Reserve University, Cleveland, 1883; died, July 3, aged 75.

William Dillon, Urbana, Ill.; Medical College of Ohio, Cincinnati, 1882; died, July 4, aged 72, following a long illness.

Wellman Calvin Blake, Bellingham, Mass.; Dartmouth Medical School, Hanover, N. H., 1884; died, June 27, aged 63.

Broer Rollo Johnson ✱ Cadillac, Mich.; Rush Medical College Chicago, 1920; died, July 8, aged 27.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

HAELEPRON TABLETS NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has adopted the following report declaring Haelepron Tablets inadmissible to New and Nonofficial Remedies.

W. A. PUCKNER, Secretary.

Haelepron Tablets are made by Bodenstein and Gaslinsky, Berlin, Germany, and sold in the United States by the Haelepron Sales Co., New York. The following nonquantitative statement of the composition of Haelepron Tablets appears on the trade package:

"Haemaglobin, Lecithin, Calc. Lact., Protein vegetab., Ferr. sacch., Ferr. pyrophos."

A similar statement appears in the advertising except that here the preparation is said to contain "Protein animal and vegetable," and instead of one calcium salt, "Calc. Lact.," and two iron salts, "Ferr. sacch., Ferr. pyrophos," being claimed the presence of two calcium salts, "calcium lactate" and "calcium saccharate," and one iron salt, "pyrophosphate of iron," is declared.

In the information sent the Council, the following report of an analysis of Haelepron Tablets is given:

"Water 8.86, Nitrogen (Protein) 48.10, Ether Extract (Fat) 7.08, Mineral Salts (calcium lactate saccharate Pyrophosphate of Iron) 10.61, Cellulose 1.93, Extractive substance (non-nitrogenous and not cellulose) 23.42."

In the circular it is claimed: "The Protein substances are chiefly blood albumin (Haemoglobin) besides the proteids of Milk, Egg and certain plants. And the mineral residue consists altogether of a variety of lime and iron salts." According to the Haelepron Sales Co., this indefinite mixture is "Indicated whenever nutrition impaired, in nervous conditions and dysemias." The indiscriminate use of the tablets is suggested by the declaration that they are "tolerated by everyone" and their use does not "interfere with . . . other medicines taken simultaneously."

The Council finds Haelepron Tablets inadmissible to New and Nonofficial Remedies because (1) their composition is indefinite and semi-secret, (2) the recommendations for their indiscriminate use are unwarranted, (3) the name is not descriptive of their composition and (4) they are an irrational and useless combination which can have little if any effect on the conditions for which they are recommended.

PLATT'S CHLORIDES: DECEPTION OR IGNORANCE?

An advertisement for Platt's Chlorides calls attention to the fact that chlorin antiseptics are at present in favor. The statement is then made that "chlorid of lime" is perhaps the best known of the older chlorin antiseptics. To quote:

"As prepared and combined (with other related salts) under the name of Platt's Chlorides it ["chlorid of lime"] has served well for years for disinfection purposes about the house. Platt's Chlorides is still the choice of a great many discriminate [*Sic!*] people and is to be found in homes and in hospitals everywhere. In fact, with our present appreciation of chlorin, this preparation is sure to win more friends than ever before."

"Chlorid of lime" is an unscientific name for calcium hypochlorite or chlorinated lime (the pharmacopeia gives it as a synonym for *calx chlorinata*). An analysis of Platt's Chlorides made several years ago in the A. M. A. Chemical Laboratory failed to show any active (free) chlorin derivative. True chlorids were present, but chlorin in the negatively

charged (combined) form as in chlorid (Cl^-) is not known to have any germicidal effects; it is active only when it is in a positively charged form as in the free state ($^-Cl^-Cl^+$) or in hypochlorites and derivatives (HO^-Cl^+). A recent specimen of Platt's Chlorides has also been tested for hypochlorites. The chemical laboratory again reports the absence of active chlorin (Cl^+) compounds; further it points out that hypochlorite could not be present as the product contains considerable iodid which would be incompatible with hypochlorite.

The question naturally arises: Is this misinformation concerning Platt's Chlorides a case of deception or is it merely ignorance due to the fact that the household phrase "chlorid of lime" resembles the name calcium chlorid, the latter being present in Platt's Chlorides? The evidence points to deception because the label on the bottle states (in accordance with the requirement of the federal law) that calcium chlorid in Platt's Chlorides is *inert* material!

Platt's Chlorides has been the subject of previous reports. The Council on Pharmacy and Chemistry declared it "inadmissible to New and Nonofficial Remedies because its composition is uncertain and indefinite and because the claims made for it are exaggerated and misleading."

Correspondence

NUTRITION IN RICKETS

To the Editor:—Dr. A. F. Hess, in his Cutter Lecture at Harvard a few weeks ago, remarked that "advance in our knowledge of rachitis promises to be greater during this decade than through the preceding 250 years." He asserts that the dietary deficiencies play a very significant part in the etiology of rachitis.

A number of years ago, when I was connected with the West End Children's Hospital and Dispensary, Boston, we were having a large number of rachitic children in our daily clinics, a majority of them from among the colored population. The superintendent, Dr. H. C. Haven, informed me that he had made quite an exhaustive study of rachitis with especial reference to the causes of the disease, and he came to the conclusion at that time that environment, lack of sunlight and fresh air were the probable causes. He stated that among the colored in Africa, in a climate to which they are adapted, there are no cases of rachitis.

Three winters later while in the South, I studied the children of that warm climate who were in the fresh air and sunshine practically the year around, and I failed to find a case of rachitis among them. I have no doubt that with a properly regulated diet with plenty of sunlight and fresh air, we have the best treatment for rachitis extant. Surely sunlight is the enemy of disease.

C. S. SCOFIELD, M.D., Richford, Vt.

"A PRACTICAL TROCAR AND CANNULA FOR REMOVING ASCITIC FLUID"

To the Editor:—I have just read with interest the article contributed by Dr. William W. Duke (THE JOURNAL, July 8, p. 134) in which he describes and illustrates an improved trocar and cannula. He concludes his article by saying, "The advantages of this cannula would appear to offset its only disadvantage, slightly increased cost." This quotation impels me to write of an improvement I had made in a cannula about fifteen years ago, and following somewhat the lines of Dr. Duke's instrument, but which can be had at practically no added cost to the instrument in common use.

Two oval openings near the end of the cannula were made corresponding to the size of the inlet, and perfectly smooth, so that they could not interfere with the entrance of the trocar into the cavity to be drained. To avoid weakening the lumen of the cannula, these openings were not placed opposite each other, or on the same level.

When the cannula is in place, there is a continuous flow of the fluid until complete evacuation is accomplished.

Dr. Duke's instrument has, however, a distinct advantage in its added length, which affords a wider range of usefulness.

J. HARRIS PIERPONT, M.D., Pensacola, Fla.

"THE ALLEGED INSUSCEPTIBILITY TO INTOXICATION BY POISON IVY"

To the Editor:—In THE JOURNAL, July 15, is a current comment in which the statement is made that, "contrary to the theory of 'desensitization' by internal administration of tincture of rhus, it appears that the susceptibility may be increased with successive intoxications."

The question of desensitization by internal administration of the tincture of the drug is unrelated to the question of increasing susceptibility to successive external exposure to the plant. It is to be regretted that destructive criticism of the treatment by desensitization should be published without adequate clinical testimony, for many patients may, as a result, be deprived of the value of this treatment.

In October, 1919, I published a short paper in THE JOURNAL on "Desensitization of Persons Against Ivy Poison." Since that time I have treated in the neighborhood of fifty patients who were susceptible to ivy poison, and most of whom were subject to yearly attacks. In not a single patient has ivy poison developed since, when the treatment was carried out prior to exposure; in a number of cases the patient escaped an attack of ivy poisoning during the season when the medicine was taken, but was attacked the following season when the medicine was omitted.

In my opinion, it is possible in practically all persons to prevent attacks of rhus dermatitis by taking, internally, ascending doses of a 1 per cent. solution of the tincture, beginning with a drop, well diluted, and increasing to sixty drops a day. The uniform success that I have observed with this treatment convinces me absolutely that persons can be desensitized during the period of administration of the drug, and usually for about a month after the cessation thereof.

JAY FRANK SCHAMBERG, M.D., Philadelphia.

POSTGRADUATE STUDY IN VIENNA

To the Editor:—The American Medical Association of Vienna wishes to announce the restoration of friendly understanding between their organization and the teaching-body of the University of Vienna. A committee, elected by the association, after an investigation of charges of discrimination against Americans, which were reported by members of our association, finds that these charges could not be substantiated.

We further wish to state that, through the efforts of our committee, working with a like committee from the teaching-body, sufficient numbers of book courses in English in all branches may be had at prices of from $3 to $5 an hour for the group taking such courses.

JOHN J. GELZ, M.D.,
BERNARD KAUFMAN, M.D.,
WILLIAM WILSON, M.D., Vienna.

Public Health in Spain.—In a recent lecture, Dr. César Juarros, the Madrid neurologist, discussed sanitary conditions in Spain. Tuberculosis has shown an increase in its mortality from 7,700 in 1911, to 8,200 in 1915, 9,800 in 1920. Typhoid fever showed a similar increase from 4,500 in 1911, to 5,100 in 1915, and 6,998 in 1920. A similar situation prevails as regards malaria and smallpox.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BLOOD TRANSFUSION

To the Editor:—In the last examination of the National Board of Medical Examiners the following question was included: "Explain the dangers of transfusing an incompatible blood, and tell how you would determine whether or not the blood of A is compatible with that of B so that A's blood could be safely transfused into B."

Please give an answer to this question and omit my name if published in THE JOURNAL.

G. W. H.

ANSWER.—The chief danger of transfusing an incompatible blood is based on the possibility that the blood transfused may contain iso-agglutinins or isohemolysins for the blood of the recipient or that the blood of the recipient may contain bodies which agglutinate or hemolyze the cells of the donor's blood. It is clear, therefore, that a donor should be chosen for the transfusion whose blood shows no inter-agglutination or hemolysis with the patient's serum and corpuscles. If such a donor cannot be found, it is safer, as Kolmer states, to use a person whose serum is agglutinative toward the patient's cells than one whose cells are agglutinated by the patient's serum. Should an incompatible blood be transfused, it is evident that agglutination may lead to the formation of emboli and thrombi, while the intravascular hemolysis may be associated with marked hemoglobinemia, hemoglobinuria and an intense anemia of the pernicious type.

A further danger to be considered in transfusion is the possibility of transmitting syphilis by this procedure. Hence, the blood of the donor selected should have given several negative Wassermann tests.

For the determination of compatibility of the blood of A with that of B, 2 or 3 c.c. of the blood of A is obtained by the usual serologic method, and 0.5 c.c. placed at once in a centrifuge tube containing 5 c.c. of a 1 per cent. solution of sodium citrate in physiologic sodium chlorid solution. The remainder of this blood is placed in a small, dry test tube, and the serum is allowed to separate. From B (the recipient) 3 or 4 c.c. of blood is obtained in the same manner, and the same procedure is followed with this blood as with that of A (the donor).

The sodium citrate tubes are centrifuged, the supernatant fluid is pipetted off, and the cells are washed again with physiologic sodium chlorid solution. This procedure is repeated if necessary in order to free the cells from every trace of serum. After the final washing, enough physiologic sodium chlorid solution is added to the cells to make a total volume of 5 c.c.

The serum tubes are centrifuged and the clear serum is separated. This serum should be clear, and show no trace of hemolysis. The following series of tests should then be set up, the small serologic test tubes being used:

1. Four drops of A's (donor's) serum plus 1 drop of B's red cell emulsion.
2. Four drops of B's (recipient's) serum plus 1 drop of A's red cell emulsion.
3. Control: Four drops of A's serum plus 1 drop of A's red cell emulsion.
4. Control: Four drops of B's serum plus 1 drop of B's red cell emulsion.
5. Control: One drop of A's red cell emulsion plus 4 drops of physiologic sodium chlorid solution.
6. Control: One drop of B's red cell emulsion plus 4 drops of physiologic sodium chlorid solution.

One cubic centimeter of physiologic sodium chlorid solution is added to each tube, and the tubes are shaken and placed in the incubator for two hours, being inspected about every half hour. Agglutination in Tubes 1 and 2 may be recognized macroscopically by the clumping of the red cells. Hemolysis is noted as in the Wassermann test. If there is any question about hemolysis, let the tubes stand in the ice-box over night. Tubes 3, 4, 5 and 6 should show neither agglutination nor hemolysis. In the interpretation of this test, if there is no reaction (agglutination or hemolysis) in Tubes 1 and 2, then the blood of A is compatible with that of B, and may safely be used for the transfusion.

A quicker and less elaborate method for determining the compatibility of the blood of A is that of Minot: From a prick in the finger or ear, 9 drops of blood from B and 1 drop from A are collected and allowed to fall into a small test tube containing 3 or 4 drops of a 1.5 per cent. sodium citrate solution in physiologic sodium chlorid solution. In another tube, containing the same amount of the sodium citrate solution, 9 drops of blood from A and 1 drop from B are collected. The blood in each tube is mixed by shaking the tubes and allowing them to stand for fifteen minutes. At the end of this time, the two tubes are examined for agglutination by means of the microscope.

OXALIC ACID IN FOOD

To the Editor:—What foods contain calcium oxalate?

J. R. SCOTT, M.D., Nonkanahwa, N. Y.

ANSWER.—Calcium oxalate is the usual form in which oxalic acid appears in the diet. The amount of oxalic acid in different articles of food, in parts per thousand, as determined by Esbach, is:

Black tea infused five minutes	2.060
Cocoa-powder	3.520 to 4.500
Pepper	3.250
Coffee	0.127
Parsley	0.006
Common beans	0.158
Potatoes	0.046
Good bread	0.047
Crust	0.130
Buckwheat flour	0.171
Barleymeal	0.039
Maize flour	0.033
Sorrel	2.740 to 3.630
Spinach	1.910 to 3.270
Rhubarb	2.466
Brussels sprouts	0.020
Cauliflower	0.003
Beetroot	0.390
Tomatoes	0.002 to 0.052
Carrots	0.027
Chicory	0.103
Endive	0.017
Lettuce	0.016
Dried figs	0.270
Currants	0.130
Prunes	0.120
Gooseberries	0.070
Plums	0.070
Raspberries	0.062
Oranges	0.030
Lemons	0.030
Cherries	0.025
Strawberries	0.012

BACHELET ELECTRO-MAGNETIC THERAPEUTIC WAVE GENERATOR

To the Editor:—I am enclosing a mass of wonderfully attractive literature on the "Bachelet Electro-Magnetic Therapeutic Wave Generator." Although declared to be radioactive, the pamphlet states that "any physician may use the Bachelet without fear of injury to himself or his patient." That this last statement is quite true I do not doubt, but it seems inconsistent with the manufacturer's claims of radioactivity. In fact, it seems to me that the manufacturer is treading perilously near the path that leads to federal fraud orders debarring him from the use of the mails.

The enclosed literature should make wonderful mental pabulum for the layman and pseudoscientific physician with a leaning toward questionable practices; but I would like to hear from you as to its real value—if it has any, which I doubt.

JOHN H. SCHAEFER, M.D., Clovis, Calif.

ANSWER.—So far as one can judge from the advertising matter and literature, the "Bachelet Electro-Magnetic Therapeutic Wave Generators, Radio-Active" device (price, from $50 to $350) is simply a form of induced current. Aside from the psychic effect of the apparatus, it is hard to see why results from it would be any more beneficial than those obtained from a small faradic coil costing about $5. Essentially, the only results obtained from the faradic induced current are two: first, a stimulation of the peripheral circulation; second, muscle contraction when the lower motor neuron is intact. The claims made for the "Bachelet Electro-Magnetic Therapeutic Wave Generators, Radio-Active," make one wonder whether this concern has had its literature written by a copy-writer trained in the "patent medicine" school of advertising.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, Sept. 5. Sec., Dr. Harry C. DeVighne, Juneau.
NEW HAMPSHIRE: Concord, Sept. 7-8. Sec., Dr. Charles Duncan, Concord.

California February Examination

Dr. Charles B. Pinkham, secretary, California State Board of Medical Examiners, reports the oral and written examination held at Los Angeles, Feb. 13, 1922. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the 64 candidates who took the physicians' and surgeons' examination, 33, including 13 osteopaths, passed, and 31, including 14 osteopaths, failed. Of the 15 candidates who took the drugless practitioners' examination, 7 passed and 8 failed. One candidate took the examination for chiropody and passed. One hundred and nineteen candidates were licensed by reciprocity. Eight candidates were licensed on government credentials. Six candidates received osteopathic certificates by reciprocity. Six candidates received drugless certificates by reciprocity. Of the 3 candidates who took the test of competence, 1 passed and 2 failed. Two candidates were licensed to practice midwifery. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Los Angeles	(1921)	82.1
Stanford University	(1922)	87.2, 87.2, 90.8
University of California	(1921)	*
Northwestern University	(1918)	75.6
Rush Medical College	(1921)	90.3
Johns Hopkins University	(1921)	91.6
University of Michigan Medical School	(1907)	82.2
University of Minnesota	(1922)	86.8, 87.3
University of Nebraska	(1921)	86.5
University of Cincinnati	(1921)	79.9, 85.2
Jefferson Medical College	(1919)	76.5
University of Pennsylvania	(1919)	85.6
McGill University	(1920)	89.2
University of Toronto	(1909)	84.8
Royal College of Surgeons, England	(1909)	78.4
University of Zurich		81
Osteopaths	75, 75, 75, 75, 75.6, 75.8, 76, 80, 80.3, 81, 82, 83.3, 83.4	
FAILED		
California Medical College	(1905)	37
College of Physicians and Surgeons, Los Angeles	(1920)	66.9
College of Physicians and Surgeons, San Francisco	(1918)	67.9
Medical College of Indiana	(1894)	70
College of Physicians and Surgeons, Keokuk	(1895)	67
Keokuk Medical College	(1891)	*
University of Louisville Medical Department	(1905)	*
Detroit College of Medicine and Surgery	(1905)	42
Saginaw Valley Medical College	(1903)	*
Hahnemann Medical College of the Kansas City Univ.	(1902)	65
St. Louis College of Physicians and Surgeons	(1888)	54
Toledo Medical College	(1898)	60
University of Cincinnati	(1921)	62.3
Jefferson Medical College	(1900)	64
Dallas Medical College	(1903)	49
Nagasaki Special Medical School	(1918)†	67.7
University of Moscow	(1909)†	71.5
Osteopaths	60.5, 63, 63.1, 63.7, 63.8, 65.8, 66.5, 67.2, 67.3, 70, 70.7, 70.7, 70.8, *	

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
Denver and Gross College of Medicine	(1910)	Colorado
University of Colorado	(1911) Colorado, (1913)	Ohio
Yale University	(1907)	Mass.
George Washington University	(1906) Wyoming, (1908)	Dist. Colum.
Atlanta Medical College	(1914)	S. Carolina
American Medical Missionary College	(1900)	Tennessee
Bennett College of Eclectic Medicine and Surgery	(1907)	Iowa
Bennett Medical College	(1912)	Illinois
Chicago College of Medicine and Surgery	(1915)	Illinois
Chicago Homeopathic Medical College	(1894)	Idaho
College of Physicians and Surgeons, Chicago	(1905) (1906), (1908) Illinois	Wisconsin,
Hahnemann Medical College and Hospital of Chicago	(1894), (1900)	Illinois
Jenner Medical College	(1906) Illinois, (1917)	Washington
Northwestern University	(1892) Illinois, (1904) (1906), (1908) Illinois, (1909) Indiana, (1910) Illinois, (1914) Minnesota	N. Dakota
Rush Medical College	(1890) Iowa, (1894), (1899) Maine, (1901) N. Dakota, Washington, (1904) Idaho, Illinois, (1907) Texas, (1910) Illinois	(1896) S. Dakota
University of Illinois	(1916)	Illinois, Washington
Central College of Phys. and Surgs., Indianapolis	(1901)	Iowa
Indiana University	(1909)	Indiana
Medical College of Indiana	(1905)	Indiana
Drake University	(1891), (1904)	Iowa
Sioux City College of Medicine	(1896)	Iowa
State University of Iowa College of Med.	(1888), (1901) (1906) Washington	Iowa
Louisville Medical College	(1905)	Illinois
Louisville National Medical College	(1908)	Kansas
University of Louisville Medical Department	(1913)	Kentucky
Tulane University	(1891) Tennessee, (1920)	Louisiana
Baltimore Medical College	(1897) New York, Ohio, (1904)	Oregon
Johns Hopkins University	(1908)	Minnesota
University of Maryland	(1883)	New Jersey
Harvard University	(1897) Oregon, (1917)	Mass.
Tufts College Medical School	(1897)	Mass.
Detroit College of Med. and Surg.	(1889) Colorado, (1902)	Washington
University of Michigan Medical School	(1869) 1876) Idaho, (1902) Michigan, Washington, (1908) Pennsylvania, (1909) Oregon	Illinois
University of Minnesota	(1909), (1921)	Minnesota
Ensworth Medical College	(1910)	Nebraska
Kansas City Medical College	(1904)	Kansas
St. Louis College of Physicians and Surgeons	(1898)	Georgia
St. Louis Univ. School of Med.	(1916) Missouri, (1918)	Colorado
Univ. Med. College of Kansas City	(1901) Colorado, (1903)	Arizona
John A. Creighton Med. College	(1902) Nebraska, (1907)	Utah
Lincoln Medical College	(1897)	Nebraska
University of Nebraska	(1905), (1909)	Nebraska
Bellevue Hospital Medical College	(1887) Montana, (1898)	Minnesota
Columbia University	(1900), (1909) New York, (1910)	Alaska
Long Island College Hospital	(1890)	Arizona
New York Homeopathic Medical College and Flower Hospital	(1914)	New York
Eclectic Medical Institute	(1891)	Nevada
Medical College of Ohio	(1891) South Dakota, (1901)	Ohio
Starling Medical College	(1904) Michigan, (1906)	Ohio
University of Oregon	(1916)	Oregon
Hahnemann Medical College and Hospital of Philadelphia	(1909) Minnesota, (1912)	Penna.
Jefferson Medical Coll.	(1888) New Jersey, (1908) Oregon, (1897)	Washington
Medico-Chirurgical College of Pennsylvania		Penna.
University of Pennsylvania	(1919)	Hawaii
University of Pittsburgh	(1919)	Penna.
Western Pennsylvania Medical College	(1904)	Penna.
Woman's Med. Coll. of Pennsylvania	(1915) Ohio, (1893)	Utah
Meharry Medical College	(1907), (1912) Georgia, (1917)	Arkansas
University of Tennessee	(1914)	Texas
Vanderbilt University	(1913)	New York
University of Texas	(1919) Oklahoma, (1920)	Texas
Marquette University	(1919)	Oregon
Milwaukee Medical College	(1903)	N. Dakota
University of Manitoba	(1893)	N. Dakota
University of Toronto	(1888)	Penna.
Western University	(1915)	Minnesota
Osteopaths	Indiana (1), Michigan (1), Missouri (3)	Oregon (10)

College	Year Grad.	Endorsement with
ENDORSEMENT OF CREDENTIALS		
Hahnemann Medical College of the Pacific	(1918)	U. S. Army
Columbian University Medical Department	(1904)	U. S. Navy
George Washington University	(1913)	U. S. Army
Bennett Medical College	(1915)	U. S. Army
Rush Medical College	(1911)	U. S. Navy
Baltimore Medical College	(1913)	U. S. Navy
Johns Hopkins University	(1912, 2)	U. S. Navy

* No grade given.
† Graduation not verified.

Arkansas May Examination

Dr. J. W. Walker, secretary, Arkansas State Board of Medical Examiners, reports the written examination held at Little Rock, May 9-10, 1922. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Five candidates were examined, all of whom passed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Little Rock	(1910)	79.7
University of Arkansas	(1911)	77.1
Tulane University	(1921)	76.7, 84.6
University of Tennessee	(1922)	84.2

Dr. Walker also reports that from Nov. 9, 1921, to May 10, 1922, eighteen candidates were licensed by reciprocity. The following colleges were represented:

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
Birmingham Medical College	(1914)	Alabama
Hahnemann Medical College and Hosp. of Chicago	(1907)	Illinois
Northwestern University	(1920)	Illinois
University of Louisville Medical Department	(1921)	Kentucky
University of Minnesota	(1921)	Minnesota
Marion-Sims Medical College	(1892)	Kansas
Missouri Medical College	(1885)	Texas
National University of Arts and Sciences	(1916)	Missouri
St. Louis University School of Medicine	(1916)	Missouri
Washington University	(1919)	Missouri
Omaha University	(1901)	Nebraska
Memphis Hospital Medical College	(1903), (1907) (1910) Louisiana, (1912) Missouri, (1913) Tennessee	Mississippi
Vanderbilt University	(1921)	Tennessee
University of Tennessee	(1916)	Mississippi

Book Notices

THE PATHOLOGICAL GALL-BLADDER ROENTGENOLOGICALLY CONSIDERED. By Arial W. George, M.D., and Ralph D. Leonard, A. B., M.D. Annals of Roentgenology, Volume II. Cloth. Price, $10 net. Pp. 198, with 137 illustrations. New York: Paul B. Hoeber, 1922.

The authors of this atlas on roentgenologic studies of the gallbladder are too well known to those acquainted with medical literature to require any introduction. It would be surprising, therefore, if the reader were not brought in contact with the best there is to be had on this particular subject. One must marvel at the splendid technic that enables the collaborators to depict in such a clear and unmistakable way pathologic conditions which have been verified time after time by exploratory operation. The text is in English, French and German. The print, paper and reproductions are excellent. Emphasis is laid on the careful preparation of the patient for examination, and a description of the technic is given. A statement of the approximate amount of amperage is omitted. The authors recommend a high milliamperage with a medium focus radiator type of tube. The latter tubes, however, for the purpose of conservation, are restricted to 30 milliamperes. Hence a more explicit statement at this point might be desirable. What would appear to be especially interesting is the subject of indirect evidence of disease of the gallbladder. So well known are the difficulties underlying the differential diagnosis of diseases of the gallbladder from duodenal ulcer that any technic, whether clinical or laboratory, that aids in solving this trouble would be widely welcomed by all. Not every one can be a Leonard or a George, but every one can profit by their experience. A study of their technic and results will be of great help to the physician in his daily struggle with this baffling problem.

UEBER DIE ALTERSSCHÄTZUNG BEI MENSCHEN. Akademische Antrittsrede bei der Uebernahme der Professor für innere Medizin in Erlangen. Von L. R. Müller, Direktor der Medizinischen Klinik in Erlangen. Paper. Price, 132 marks. Pp. 62, with 87 illustrations. Berlin: Julius Springer, 1922.

Probably the most valuable feature of this little book is the illustrations showing the appearances of the human body at various ages. It is emphasized that, at present, only general estimates can be made of the age of human beings by the study of the bodily conditions. No scheme has been devised by which one can evaluate correctly the varying influences of the many different factors that determine the rate of senescence. The book should be of special value to insurance examiners and others who are concerned with the determination of the expectancy of life.

PATHOLOGISCHE HISTOLOGIE. Ein Unterrichtskurs für Studierende und Aerzte. Von Dr. Max Borst, O. Ö. Professor der Allgemeinen Pathologie und der Pathologischen Anatomie an der Universität München. Paper. Price, 250 marks. Pp. 371, with 238 illustrations. Leipsic: F. C. W. Vogel, 1922.

In this excellent book the author presents a beautifully illustrated description of the pathologic histology of the principal diseases, based on the experience of twenty-five years in giving courses to medical students. The book should prove a reliable and useful guide to the study of pathologic histology. The illustrations merit a word of special praise. All are drawn by W. Freytag in Wurzburg from original preparations, most of them in colors. They represent a noteworthy artistic and technical achievement.

ANLEITUNGEN ZU DEN PRÄPARIERÜBUNGEN AN DER MENSCHLICHEN LEICHE. Von Georg Ruge, O. Ö. Professor der Anatomie und Direktor der Anatom. Anstalt in Zürich. Fifth edition by Dr. med. Walther Felix, O. Ö. Professor der Anatomie und Direktor der Anatom. Anstalt in Zürich. Cloth. Price, 155 marks. Pp. 724, with 267 illustrations. Leipsic: Wilhelm Engelmann, 1921.

The value of this work is in the highly essential correlation of the technical minutiae of the study of human anatomy in the dissecting room with that in the larger textbooks and atlases, aiming to guide the student in correct methods of orderly dissection and exposure. The book, including the covers, is just a little more than an inch thick, notwithstanding the large number of pages, an accomplishment in book making which other publishers should imitate.

Miscellany

VACCINATION IN THE PHILIPPINES

The statement made by the antivaccinationists that vaccination has proved a failure in the Philippines as a means of preventing smallpox is the exact opposite of the facts. This is conclusively shown in an authoritative statement in the current number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION by Dr. Victor G. Heiser, consultant in health to the Governor General of the Philippines, and Dr. Charles N. Leach of Manila. It is true that lately there was a large increase of deaths from smallpox in the Philippines, coincidentally with a nominal existence of public vaccination, but this apparent revival of smallpox is shown to have followed a widespread neglect of vaccination.

Previous to the American occupation of the Philippines there were 40,000 deaths a year from smallpox in the islands. When the Americans introduced compulsory vaccination the disease disappeared wherever vaccination was applied. The death rate from smallpox in the provinces surrounding Manila fell from 6,000 annually to not one. For seven years prior to 1914 there was not one death from smallpox in the city of Manila. Then laxity began to prevail, and it is proved that the local officials began to report vaccinations where none or very few had taken place. Vaccination is under any circumstances a difficult matter in Philippine country districts. The average temperature is from 90 to 100 degrees all the year round. Ordinary vaccine remains potent only a few days without ice, and outside of the cities it is impossible to procure ice. This condition of things prevented the universal application of vaccination in the Philippine country districts, with the result that in these districts the disease was kept alive. Finally it was discovered that while in one province the officials, with cheerful enthusiasm, reported 50,000 more vaccinations than there were inhabitants in the province, the vaccine virus was found to have been thrown into waste-paper baskets and other receptacles of rubbish. This condition of things was exposed; active vaccination was resumed, and the islands are again almost free of smallpox.

It was upon the temporary revival of smallpox, consequent upon the neglect described, intentional in some cases and unavoidable in others, that the antivaccinationists based the claim, which they are still making, of the "failure of vaccination in the Philippines." The simple fact is that, in the recent smallpox epidemic, 93 per cent. of the deaths were shown to have occurred among the unvaccinated. As matters now stand, vaccination is proceeding on a better scale than ever, for methods have been discovered for making vaccine that will remain potent under tropical conditions.

If in spite of this renewal of the protection afforded the prevalence of smallpox should continue, there might be some claim for the assertion that "vaccination is a failure in the Philippines." As a matter of fact, the resumption of active vaccination has already terminated the epidemic. What Dr. Heiser and Dr. Leach say about the matter appears perfectly true; namely, that "those who have advocated the abolition of vaccination have been the cause of many of the deaths among the unvaccinated, and in view of the frightful loss of life that may occur in smallpox epidemics they are assuming a grave responsibility indeed if they continue their campaign."
—Editorial, *Boston Evening Transcript.*

Treatment of Insomnia.—There is no specific for insomnia. The underlying cause must be ascertained and removed before a cure can be expected. Even then the ability to sleep often needs to be wooed back. There is an art in making yourself comfortable and also an art in procuring pleasant dreams.—*Nation's Health* **4**:212 (April) 1922.

Medicolegal

Courts Selecting Physicians to Make Examinations

(Landis v. Wichita Railroad & Light Co. (Kan.), 203 Pac. R. 1109)

The Supreme Court of Kansas, in affirming a judgment in favor of the plaintiff in this personal injury case, says that, just before the impaneling of the jury, the defendant's attorneys asked the trial court to appoint two or three physicians of its own choosing to examine the plaintiff. The plaintiff being willing to be examined by two physicians chosen by the defendant, the court refused to make any selection on its own account. The defendant complained of this refusal, arguing that the report of an examination would have carried more weight with the jury if made by persons selected by the court. Merely to illustrate the difference of opinion on the subject, and without approving the doctrine, it may be mentioned that a statute requiring the court to select expert medical witnesses to testify in murder cases has been held unconstitutional, in part, at least, because of the very fact that the jury would be likely to give exceptional credence to their testimony; the court saying:

> The expert witnesses provided for by this section testify under a sanction which gives to their testimony practically the same weight as if it were delivered by the court itself, and if that testimony, being against the accused, were either willfully or ignorantly mistaken, its baneful results would be appalling. To give to the testimony of a witness or witnesses this extraordinary certificate of candor, ability and truthfulness, while the other testimony in the case must be judged by ordinary standards, is to subvert the very foundations of justice. (*People* v. *Dickersen*, 164 Mich. 148, 129 N. W. 199.)

The Supreme Court of Kansas has held that, in some circumstances, the trial court has discretionary power to appoint physicians to make an examination of a person whose condition is in controversy; but, if a refusal to do so can ever amount to an abuse of discretion, the court finds no basis for holding such to have been the case here. In other words, it is held here that no abuse of discretion is shown in the refusal of the trial court to select physicians to examine a plaintiff the extent of whose injuries was in issue, the plaintiff being willing to be examined by physicians chosen by the defendant.

A Bequest for Teaching Medicine Held Void as Against Public Policy

(In re Hill's Estate (Wash.), 204 Pac. R. 1055)

The Supreme Court of Washington says that this action was brought for the purpose of testing the validity of a paragraph of the will of one S. G. Hill, deceased. In that paragraph, the testator directed the trustee named in the will to invest the residue of the estate in bonds and apply the income in perpetuity, after deducting the expense of handling the trust, in order to pay for the services of a competent homeopathic physician or physicians, who should give instruction at or near some reputable homeopathic school of medicine in the United States, to demonstrate to students the effectiveness of homeopathic remedies and treatment in cases of chronic diseases; the physician presenting these lectures and clinics to use as textbooks and confine the instruction to the proposition, principles and methods laid down in Hahnemann's "Organon of the Art of Healing;" "The Nature of Chronic Diseases" (Hahnemann's), and J. T. Kent's "Lectures on Homeopathic Philosophy;" and should also be required to teach his students the use and application of Kent's "Repertory of Homeopathic Materia Medica." Further provision was made to the end that there should be no subversion or distortion of the instruction and information which the testator wished to become available to such students in medicine as might desire to receive the same.

On the trial there was testimony by physicians who practiced according to the methods and principles of the allopathic school, and also those who practiced according to the principles and methods of the homeopathic school. Disregarding entirely the testimony of the allopathic physicians, and looking only to the evidence of those testifying who belonged to the homeopathic school, the great weight of the evidence sustained the finding or conclusion of the trial court that, if the books mentioned were taught without subversion or distortion, it would lead to sickness and death, and would deprive ailing persons from receiving treatment which is recognized by the modern homeopathic school. It might be said that the evidence almost conclusively established that fact. The evidence showed that, since the books mentioned were written, there had been a large development in medical science as practiced by the homeopathic school; that the books were not modern, and that if the principles and methods there taught only were applied in the healing of disease, it would be detrimental to the public health.

Since the evidence showed that the teaching of the books without a subversion or distortion would be inimical to the public health, the question arose as to whether the bequest for that reason was void. It can hardly be doubted that, if it were a bequest which tended to support an immoral purpose as recognized by modern standards of correct conduct, the will would be void for that reason. If a will making a bequest for an immoral purpose should be declared void, by the same course of reasoning it would follow that, when providing for the teaching of medicine which would be detrimental to the public health, it would likewise be illegal and could not be carried into effect. In other words, in such a case, it becomes the duty of the court to declare that the bequest is void on the ground of public policy. If the bequest had not been limited to instruction in the books mentioned without subversion and distortion, and had recognized that the principles and methods of those books were to be taught in connection with the modern methods of the homeopathic school, an entirely different question would be presented. As the record stands, the bequest and the teachings required thereby are not supported by any modern school of medicine. It was contended that the bequest was void also on other grounds, but these need not be considered, because the fact that the bequest was void on the ground of public policy disposed of the case.

Implied Authority to Make Exploratory Incisions and Extend Operation

(King. v. Carney (Okla.), 204 Pac. R. 270)

The Supreme Court of Oklahoma, in reversing a judgment obtained by the plantiff, and remanding the cause for a new trial, holds that the general directions of a patient to his surgeon, authorizing him to perform an operation for the cure of a specific physical ailment, not only authorizes the surgeon to operate, but also, by clear implication, authorizes him to diagnose the case for the purpose of discovering for himself the exact cause of the malady he is called on to treat, and to make whatever initial exploratory incisions may be necessary for this purpose. If, in the course of an operation to which the patient consented, the physician discovers conditions not anticipated before the operation was commenced, and which, if not removed, will endanger the life or health of the patient, he will, though no express consent was obtained or given, be justified in extending the operation to remove and overcome them.

This was an action for damages for an alleged unauthorized operation. The plaintiff, Mrs. Carney, the court says, had been married twice, and had one child by her first husband. After her second marriage, she bore no children, but suffered from several miscarriages. Wishing to correct this condition, she called on defendant King, told him that her family physician had stated that her condition was caused by laceration of the uterus, and said: "I want to be fixed so I can bear children, and we will never be happy without that." The defendant testified that he made an incision in the plaintiff's abdomen and an examination from which he found that the ovaries were badly affected; that there were many adhesions around the ovaries, intestines and uterus; that the fallopian tubes were sealed, both ends being full of pus; and that, on discovering the condition, he removed the diseased organs and the contiguous infected tissues. Up to

this point the defendant and the surgeon who assisted with the operation were permitted to testify without objection. On the witnesses being asked questions tending to prove that the fallopian tubes, the ovaries and surrounding tissue were so badly diseased that it was necessary to remove the diseased organs and affected parts to preserve the plaintiff's life and health, and that it would have been dangerous to her life and health not to do so, objections were made and sustained by the trial court. But the supreme court holds that the state of the pleadings warranted the introduction of testimony tending to show an emergency, and that the exclusion of this testimony constituted reversible error.

It was contended that, under the pleadings and the proof, the plaintiff's directions to the defendant were so limited that he was authorized only to perform the simple operation of mending the laceration of the uterus, which is properly performed through the vaginal opening. But the plaintiff's specific directions to the defendant, "I want to be fixed so I can bear children, and we will never be happy without that," it seems to the supreme court, not only authorized he defendant to cure the condition, if possible, but by clear implication authorized him to diagnose the case for the purpose of discovering for himself the exact cause of sterility and to make whatever exploratory incisions might be necessary to accomplish this purpose. It is quite clear that making the initial incision in the plaintiff's abdomen was a proper and necessary step along this line. And the mere fact that the plaintiff may have believed, or had been advised by her family physician, that her condition was caused by a laceration of the uterus did not relieve the operating surgeon of the duty of discovering for himself the cause of the physical defect he was called on to remedy. When this conclusion is reached, the relevancy of the testimony excluded becomes clearly apparent.

Validity of Act Prohibiting Prescribing of Beer

(Falstaff Corporation v. Allen et al. (U. S.), 278 Fed. R. 643)

The United States District Court, in Missouri, in holding valid the amendment to the Volstead Act providing that only spirituous and vinous liquors may be prescribed for medicinal purposes, says that counsel for the complainant disclaimed in behalf of beer any medicinal value or property whatever. They contended that this amendatory act invaded the inviolable rights of natural liberty; and that the Eighteenth Amendment to the Constitution could not, and as a matter of law did not, confer on Congress the authority to say what particular thing or agent might or might not be prescribed as a medicine, by physicians residing in the several states. Courts take judicial notice that beer, of the sort here involved, is an intoxicating liquor; but they do not judicially notice whether beer is or is not valuable as a therapeutic agent. It followed, then, that, for the purpose of this case, the beer which the complainant desired to make and sell without any interference from the defendants must be regarded as an intoxicating liquor which possessed no recognized medicinal value whatever. In the final analysis, it might well be insisted that the Eighteenth Amendment does not, in terms, forbid the use of beer as a food; but it will hardly be contended that its use for such a purpose can be permitted in the face of this amendment, and the statutes passed by virtue thereof, even though chemical analysis discloses that it possesses some food value, and even though in other times it may have constituted, to many, both food and drink. In other words, since the adoption of the Eighteenth Amendment, the privilege of drinking beer is no longer governed by the state of mind of him who drinks it; for, since it is an intoxicating liquor, its use is forbidden by the amendment. When beer is used as a drink, it necessarily follows that it is so used either as a beverage, or as a medicine. If it has no value as a medicine, then, when it is used as a drink it is used as a beverage, and this the Eighteenth Amendment and the laws passed thereunder forbid. Color is lent to the appropriateness of the restriction here complained of by the fact that a large number of the states have deemed it absolutely necessary to pass laws which prohibit the prescribing for medicinal purposes of any intoxicating liquors whatever, save alcohol, and those statutes, thus restricting the privileges of physicians, have been upheld in every case, so far as this court's examination of the holdings extends. Before the effective date of the Eighteenth Amendment, the Supreme Court of the United States upheld, in *Ruppert* v. *Caffey*, 251 U. S. 264, 40 Sup. Ct. 141, the war-time prohibition definition of an intoxicating liquor as being any liquid which contained more than one-half of 1 per cent. of alcohol; and held, in effect, that Congress, in the light of what experience had demonstrated to the several states to be necessary in enforcing prohibition, could arbitrarily declare a fact to exist; wherefore this case should not be differently decided if the question as to beer having a medicinal value were directly involved. If it be that the power conferred on Congress by the Eighteenth Amendment had the effect to narrow, or wholly wipe out, constitutional rights and guaranties heretofore deemed vested and inviolable, the situation may be regrettable, but it canot be helped. The people may be mistaken; their course may be tending toward restrictions of human liberty; but, under our form of government, the majority rules; and when they change the organic law, this change must stand, and be fairly construed and honestly enforced, until it, in turn, shall be again changed in due and legal form.

Statutes Relative to Privileged Communications and Vital Statistics

(Hunter v. Hunter et al. (Miss.), 90 So. R. 440)

The Supreme Court of Mississippi, Division A, reverses a decree that was rendered in favor of the contestants of the will of one Hunter, and remands the cause for a new trial, because the physician under whose care the testator was for about two weeks prior to his death was permitted to testify that the testator, who made the will a few days before his death, was afflicted with senile dementia. The court says that it was error to admit the testimony of the physician; it was a privileged communication of the patient under his charge, which could not be disclosed, except at the instance of the patient. It was argued that the statute relative to privileged communications was repealed by implication by the enactment of the law creating a bureau of vital statistics, a section of which law provides that any copy of the records of birth, sickness or death, when properly certified to by the state registrar of vital statistics, to be a true copy thereof, shall be prima facie in all courts and places of the facts therein stated. But the point made did not arise in this case, because no certificate of the registrar showing the death or sickness of the testator was offered as evidence in the case. So far as the question was before this court in the present case, the court holds that the privileged communication statute was not repealed by the vital statistics act, unless it was repealed to the extent that a registrar's certificate, made up from statistics or information obtained from the attending physician of the patient, may be introduced in evidence to show the character of sickness or cause of death of the patient. But the court does not decide at this time how far and to what extent the recent act modifies or annuls the former statute, because the question did not properly arise in this case.

Society Proceedings

COMING MEETINGS

American Roentgen Ray Society, Los Angeles, Sept. 12-16. Dr. H. E. Potter, 122 S. Michigan Ave., Chicago, Secretary.

Colorado Congress of Ophthalmology and Oto-Laryngology, Denver, July 28-29. Drs. M. D. Brown and J. M. Shields, Metropolitan Bldg., Denver, Secretary.

Utah State Medical Association, Salt Lake City, Aug. 31-Sept. 2. Dr. W. L. Rich, Boston Bldg., Salt Lake City, Secretary.

Washington State Medical Association, Tacoma, Sept. 5-6. Dr. C. H. Thomson, 508 Cobb Bldg., Seattle, Secretary.

Wisconsin, State Medical Society of, Green Lake, Sept. 6-8. Dr. Rock Sleyster, Wauwatosa, Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

June, 1922, **163**, No. 6

*Value of Quinidin in Cases of Auricular Fibrillation and Methods of Studying the Clinical Reaction. T. Lewis, London.—p. 781.
*Influence of Rigid Salt Restriction in Diet of Chronic Nephritis. J. McLester, Birmingham, Ala.—p. 794.
Close Relationship of Erythrogenetic and Leukogenetic Functions of Bone-Marrow in Disease. Roentgen-Ray Treatment. E. Pendergrass and H. K. Pancoast, Philadelphia.—p. 797.
*Pachymeningitis Hemorrhagica Interna: Study of Five Cases of Non-traumatic Hemorrhagic Spinal Fluid. A. D. Dunn, Omaha, Neb.—p. 819.
Diaphragm Irregularities. R. C. Matson, Denver.—p. 826.
*Aneurysm of Left Ventricle. M. H. Kahn, New York.—p. 839.
Use of Electric Cautery in Laryngeal Tuberculosis. G. B. Wood, Philadelphia.—p. 855.
*Pancreatitis Following Mumps: Report of Case with Operation. L. W. Farnam, New Haven, Conn.—p. 859.
*Epidemic Encephalitis: Seventy-Eight Cases. G. E. Price, Spokane.—p. 871.
*Febrile Stages in Chronic Nephritis: Their Significance as Observed by Functional Renal Tests. J. O. Ritchey, Indianapolis.—p. 882.
Brachial Monoplegia Due to Thrombosis of Subclavian Vein. G. Wilson, Philadelphia.—p. 899.

Quinidin in Auricular Fibrillation.—In approximately 50 per cent. of cases, quinidin, as it is used at the present time, will restore the normal rhythm in the fibrillating auricles, Lewis says. The usefulness of the drug from the clinical standpoint is limited. The chief limitation consists in the early and very frequent resumption of auricular fibrillation. Lewis deprecates the general use of the drug. He urges that it should be employed only under strictly controlled conditions; it is a treatment emphatically for the wards rather than for use in an outpatient department.

Rigid Salt Restriction in Nephritis.—The following results of the salt-free diet were noted by McLester. The patient found the food unappetizing and usually ate but little. The blood urea, instead of decreasing, showed a tendency to increase. The blood chlorids, irrespective of diet, varied but little; while the urine chlorids, reflecting the degree of the patient's adherence to the diet, fell to a very low figure. The systolic pressure, as a rule, showed a moderate fall. This fall was never marked. In two of the patients there developed weakness and prostration to a distressing degree. One of the patients suddenly experienced retinal hemorrhages and other fundus changes at the end of two weeks of this diet. From these observations, McLester concludes that the almost complete elimination of chlorids from the diet of patients with nephritis and vascular hypertension accomplishes little, if anything, more than does the salt poor diet ordinarily prescribed.

Diagnosis of Hemorrhagic Pachymeningitis.—Headache, sudden in onset, with signs of meningeal and spinal root irritation when associated with a uniformly bright, bloody spinal fluid, Dunn says, is suggestive of pachymeningitis hemorrhagica interna. Repeated lumbar puncture has proved of therapeutic value.

Aneurysm of Left Ventricle.—Kahn reports two cases of aneurysm of the left ventricle. In both cases the precordial pain was a prominent feature during the course of the illness; but it was not of the typical sternobrachial radiating anginal character. Although necropsy findings did show pericardial changes in both instances, clinically this was not diagnosed, and it is difficult to state the exact period at which the pericarditis began. The outstanding features in the two cases were: (1) precordial distress and the prominent circulatory symptoms; (2) myocardial failure, hydrothorax, congestion and enlargement of the liver and congestion of the viscera; (3) electrocardiographic changes, indicating progressive disease in the myocardium; (4) striking similarity in the electrocardiographic records due to the involvement of the apical portion of the left ventricle in both instances, and (5) coronary obstruction involving the descending branch of the left coronary artery. The necropsy findings showed aneurysm of the apex and wall of the left ventricle with pericardial adhesions. A brief review of the recent literature on cardiac aneurysm is presented. Wood's plea for the greater use of the electric cautery in the treatment of laryngeal tuberculosis is not a new idea, nor am I presenting any special technic. Any sanatorium not equipped both in its personnel, and in its instrumentarium for the cauterization of tuberculous lesions of the upper respiratory tract is not giving its tuberculous patients the utmost of modern medicine, and the laryngologist who fails to avail himself of its advantages is not a proper person to treat this disease.

Pancreatitis Following Mumps.—Farnham reports a case of epidemic parotitis, which was followed by abdominal symptoms diagnosed as acute pancreatitis, and an operation showed a swollen, acutely inflamed pancreas with a large quantity of peritoneal exudate. The organism isolated from the peritoneal exudate was *Streptococcus viridans*.

Analysis of Cases of Epidemic Encephalitis.—Approximately one fourth of the cases of epidemic encephalitis seen by Price terminated fatally. Of the remaining three fourths, approximately 61 per cent. were left with persistent or permanent sequels. Relapses were of frequent occurrence, bore no definite relation to the severity of the initial symptoms and could occur several months after apparent recovery. Prognosis could not be determined from the character and intensity of the initial symptoms. Change in the abdominal reflexes is a frequent and important symptom in epidemic encephalitis, probably not hitherto sufficiently emphasized. Epileptiform attacks may occur as the sole manifestation of the infection. Rest, quiet and care in preventing too early activity on the part of the patient are essential in the treatment of epidemic encephalitis.

Febrile Stages in Chronic Nephritis.—Many observers have noted the seeming part infection plays in the etiology of nephritis. Ritchey's observations show that during febrile elevations, either due to infection or some other agent, there is a noticeable and oftentimes measurable depression in renal function. A great majority of all cases of chronic nephritis manifest temperature elevations at times throughout the course (acute stages). In chronic nephritis, fever, with an associated increase in albuminuria, shows an added acute process. While function is not consistently depressed in acute infectious fever, it is found to be so during febrile reactions in cases of chronic nephritis. In chronic nephritis, as shown by fever with simultaneous untoward clinical symptoms and functional impairment as measured by phthalein excretion, urea and creatinin retention and signs of renal irritation as determined by albuminuria and sediment increase, there are superimposed acute processes. The clinical findings of Ritchey's six cases, checked in two cases with necropsy findings, would suggest that the course of chronic nephritis is determined by these added acute processes and that the prognosis depends in large measure on their cessation or continuation.

American Journal of Ophthalmology, Chicago

June, 1922, **5**, No. 6

Tumors of Lacrimal Gland: Report of Mixed Tumor. L. A. Lane, Minneapolis.—p. 425.
Unusual Circular Lesion of Retina. W. A. Cassidy and S. R. Gifford, Omaha.—p. 434.
New Model of Schematic Eye for Skiascopy (Retinoscopy) and Ophthalmoscopy. M. U. Troncoso, New York.—p. 436.
Amblyopia Ex Anopsia and Recovery of Vision. W. H. Luedde, St. Louis.—p. 441.
New Protractor Card for Verifying Axes of Cylindrical and Spherocylindrical Lenses. S. L. Olsho, Philadelphia.—p. 451.
Illuminated Perimeter with Campimeter Features. C. E. Ferree and G. Rand, Bryn Mawr, Pa.—p. 455.
Concerning Congenital Coloboma of Lens. W. B. Weilder, New York.—p. 465.
Dacryocystitis Cured by Autogenous Vaccine. W. N. Sharp, Indianapolis.—p. 468.
Encephalopathy with Ocular Complications Probably Due to Lead Poisoning. A. C. Sautter, Philadelphia.—p. 468.
Monocular Trachoma. H. G. Thomas and F. S. Baxter, Oakland, Calif.—p. 470.
Self Expression of Lens. K. C. Wold, St. Paul.—p. 470.

American Journal of Public Health, Chicago

June, 1922, **12**, No. 6

School Health Supervision Based upon age and Sex Incidence of Physical Defects. S. J. Baker, New York.—p. 465.
Influenzal Meningitis. T. M. Rivers, Baltimore.—p. 476.
Practical Value of Frost Little Plate Method in Routine Colony Count of Milk Samples. H. M. Hatfield and W. H. Park, New York.—p. 478.
Bottled Beverages and Soda Fountain Syrups. W. W. Skinner, Washington, D. C.—p. 487.
Work of American Bakers Association in Development of Sanitary Code for Baking Industry. H. E. Barnard, Chicago.—p. 494.
Reasons for Failure of Methods to Control Diphtheria. J. W. Robinson, Los Angeles.—p. 497.
Bacterial Action of Dry Cleaning. L. E. Jackson, Pittsburgh.—p. 507.
Methods Suggested for Extermination of Mosquitoes. W. V. Becker, Philadelphia.—p. 509.
American Red Cross Diet in Famine Districts of China. H. C. Embrey.—p. 514.

American Review of Tuberculosis, Baltimore

June, 1922, **6**, No. 4

Power of Spirit. J. A. Miller.—p. 241.
Experiment in Employment of Persons with Arrested Pulmonary Tuberculosis. H. R. M. Landis, Philadelphia.—p. 253.
*Diagnosis of Pulmonary Tuberculosis from Standpoint of Industrial Physician. F. A. Craig.—p. 265.
*Causes of Rapidly Increasing Fall of Tuberculosis Death Rate in Last Five Years. H. Emerson, New York.—p. 282.
Sanatorium-Home Treatment Program for Tuberculosis Patients. H. A. Pattison, New York.—p. 305.
Sanatorium Follow-Up Studies. D. E. Wiesner, New York.—p. 320.
Practice of Artificial Pneumothorax by Hippocratic School. A. K. Krause, Baltimore.—p. 327.

Diagnosis of Pulmonary Tuberculosis.—The history, the temperature and loss of weight, Craig says, are findings of considerable value in the diagnosis of pulmonary tuberculosis. A systolic blood pressure which is below the normal for the age of the patient is a very suggestive finding.

Causes of Fall in Tuberculosis Death Rate.—It is suggested by Emerson that among the possible causes of the decline in the death rate from tuberculosis are (1) those intentionally directed as specific measures against the distribution of the tubercle bacillus from the diseased to the well, (2) those that are accessory and tend to affect the general bodily resistance of those particularly exposed or susceptible, or are intended to inform the public so that intelligent self-protection may become more general, and (3) those events, social, economic and so far as the anti-tuberculosis campaign is concerned, quite accidental, in which we may see an unsought, unplanned, and, to many, an unexpected bearing on tuberculosis. The specific measures mentioned are: (1) Early and accurate diagnosis of all forms of tuberculosis and especially of the pulmonary form at special public dispensaries as well as by the private practitioner of medicine. (2) Bacteriologic diagnosis of specimens of sputum for those suspected of having pulmonary tuberculosis. (3) Notification of tuberculosis as a communicable disease to the officers of public health. (4) Segregation in a manner to diminish if not wholly to prevent the distribution of the tubercle bacillus from those with "positive sputum" to others, during the active or open carrier stages of the disease. This includes sanatorium treatment, or its equivalent, under skilled medical and nursing direction, of those in the active stages of the disease, whether showing "positive sputum" or not, to abbreviate periods of activity or relapse, and to accomplish early and more nearly permanent arrest of the disease. (5) Home nursing services for the education of families in which one or more cases of tuberculosis are under the care of a private physician or dispensary, so that the resistance of the members of the family may be raised to and maintained at a level which will reduce the probability of development of active stages of the disease, and that the infectious discharges of the patient in the form of sputum spray and saliva and in eating and toilet articles often used in common, may be promptly destroyed or rendered innocuous. (6) Enforcement of laws and ordinances designed to reduce the habit of spitting in public places where the opportunities are great for the fouling of shoes, clothing and articles of common use by discharges from the respiratory tract. (7) Enforcement of laws and ordinances forbidding the common use of such articles as drinking cups, eating utensils, towels, etc. (8) The compulsory pasteurization of milk and milk products, except such as come from herds or cows proved to be free from tuberculosis. (9) Exclusion of parts or all of the carcasses of animals slaughtered for food purposes in which gross tuberculous lesions are found before or after slaughtering. (10) Examination and exclusion of those found to be suffering from active or open tuberculosis from industries concerned with the handling and serving of food. (11) The control of flies, especially in homes and in hospitals or sanatoria, where active open cases of tuberculosis are under care, and where food is prepared or served.

Annals of Otology, Rhinology and Laryngology, St. Louis

March, 1922, **31**, No. 1

Problem of Middle Ear Mechanics. A. G. Pohlman, St. Louis.—p. 1.
Intranasal Reconstruction. F. J. Pratt and J. A. Pratt, Minneapolis.—p. 46.
Gravity Drainage and Swabs vs. Irrigation and Wicks in Otitis Media. G. E. Barnes, Herkimer, N. Y.—p. 107.
Tonsillar Tubercles Containing Intracellular Concretions Simulating Foreign Body Pseudotubercles. C. V. Weller, Ann Arbor, Mich.—p. 110.
Demonstration of Physics of Suction Applied to Nose with Modification of Usual Technic. S. Iglauer, Cincinnati.—p. 125.
New Local Anesthetic for Nose and Throat Work. A. E. Bulson, Jr., Fort Wayne, Ind.—p. 131.
Study of Schwabach Test in One Hundred Cases. R. Sonnenschein, Chicago.—p. 137.
Tonsillectomies in Adults for Rheumatism with Critical Review of Results. H. Hastings, Los Angeles.—p. 157.
Hyoscin and Morphin as Preliminary to Local Anesthetics. L. M. Hurd, New York.—p. 167.
Nasociliary Neuralgia. G. Sluder, St. Louis.—p. 172.
Vocational, Occupational or Industrial Diseases of Ear, Nose and Throat. J. A. Donovan, Butte, Mont.—p. 176.
Tinnitus Aurium. T. J. Harris, New York.—p. 192.
Postoperative Treatment of Radical Mastoid Operation. J. A. Stucky, Lexington, Ky.—p. 200.
Tic Douloureux in Relation to Latent Maxillitis. H. B. Lemere, Omaha.—p. 204.
Dichloramin Treatment of Mastoid Wounds. R. A. Fenton, Portland, Ore.—p. 214.
Acute Lacunar Adenoiditis. S. Salinger, Chicago.—p. 220.
Problem of Hard of Hearing and Electrical Hearing Devices. G. E. Shambaugh, Chicago.—p. 225.
Bacteriology and Histopathology of Adenoids. I. Pilot, Chicago.—p. 231.

Archives of Dermatology and Syphilology, Chicago

June, 1922, **5**, No. 6

*Study of Trichophyton Purpureum Bang, Trichophyton Interdigitale Priestley and Trichophyton "B" Hodges. M. Ota, Mukden, Manchuria.—p. 693.
Variability in Susceptibility to Poison Ivy. E. D. Brown, Minneapolis.—p. 714.
*Neurorecurrences Following Treatment with Arsphenamin. E. L. Zimmermann, Baltimore.—p. 723.
*Simple Quantitative Precipitation Reaction for Syphilis. R. L. Kahn, Lansing, Mich.—p. 734.
*Itchy Points. N. Toomey, St. Louis.—p. 744.
*Radium in Treatment of Subungual Verrucae. S. Ayres, Jr., Los Angeles.—p. 748.
Verruca Plana Juvenilis. J. B. de Medina, Madrid, Spain.—p. 750.

Trichophyton Purpureum.—After examination of the literature, together with the mycologic investigations of his own material, Ota arrived at the conclusion that: *Trichophyton purpureum* (Bang), *Epidermophyton rubrum* (Castellani), *Trichophyton* A (Hodges) and probably also *Trichophyton rubidum* (Priestley) are one and the same organism; and as it has the character of an ectothrix, it would be more apt to call it *Trichophyton* than *Epidermophyton*.

Neurorecurrences After Arsphenamin Therapy.—Thirty-nine neurorecurrences are tabulated by Zimmermann. Their symptomatology, genesis and prognosis are discussed. Pathologically there are two types, a diffuse meningovascular process and a process limited to one or more focalized lesions. In the former the spinal fluid is always abnormal, in the latter it may show marked abnormalities or may be entirely normal. Prophylaxis of such lesions depends on a thorough mercurial treatment. It seems immaterial whether mercury is administered during or immediately following a course of arsphenamin.

Quantitative Precipitation Reaction for Syphilis.—Kahn adds to his previous discussion of his precipitation reaction for syphilis in which strongly reacting serums showed pre-

cipitation within several minutes and weak ones at the end of three hours' incubation in the water bath. He records further observations regarding: (1) the preparation of antigen; (2) the dilution of antigen for the tests; (3) the preparation of serum for the tests; (4) the optimum quantities of serum and antigen to be used in the tests; (5) the temperature and time of incubation, and (6) the reading of results.

Itchy Points.—An itchy disorder is described by Toomey which has characteristics so unique and notable that the diagnosis may be made simply by close clinical observation. The disease, or type of itching, is very rare. It has probably been confused most often with tic and psychotic (neurotic) scratching. The clinical course of the disorder presents features that are peculiar not only in the distribution and character of itching but also in the local appearance of the itchy points. The appearance of the skin over a pruritic point, if it has not been manipulated, shows absolutely no recognizable change from the normal. If the skin has been scratched or titillated, there will be the usual response to mechanical irritation. Repeated fingering of the itchy points may lead to a secondary infection of one or more of the follicles. The itching has characteristic limitations. It is essentially composed of one or more points, each of which seems to be more minute than the point of a steel pin. If two or several itchy points coexist, they are never grouped or even located close to one another. The disturbance of sensation is not a burning or stinging feeling but is a tantalizing itching of the severe tickling variety. The itching is not continuously present. Nor is it always worse at any certain time of the day or night. The itchy points favor certain areas. A factor common to these areas is the presence of a bony prominence under the skin. The cause and mechanism of this type of itching are completely unknown. Local applications are useless. From the little that is known of this disorder, it is not possible to form any principles of prognosis or direct medication.

Radium for Subungual Warts.—Strikingly satisfactory results were obtained by Ayres in two cases by the use of radium.

Boston Medical and Surgical Journal

June 22, 1922, **186**, No. 25

*Treatment of Diabetes Mellitus. E. P. Joslin, Boston.—p. 833.

Treatment of Diabetes Mellitus.—Joslin urges that centers of instruction for diabetic patients should be promoted. These may form around an individual doctor or a group of doctors or a hospital, but the necessity of such centers is the detailed nature of the instructions which diabetic patients must receive and the expense of the laboratory tests. It is easier to teach a group of patients and far less time consuming than to teach individual patients. The time required to perform ten tests for sugar in the urine exceeds by little that required for one test. When it comes to blood sugar estimations the difference in expense between performing ten tests and one is almost negligible. Wholesale methods must be introduced into medical practice to reduce expense and render these tests available for all. Private laboratories should be encouraged wherever they exist, and hospitals, whether private or public, should extend the facilities of their laboratories to physicians in need of the same. Physicians must learn to cooperate in their laboratory work just as surgeons have learned to cooperate in their surgical work. Very few surgeons have their own anesthetists; very few physicians should have their own laboratories. The latest and newest methods of treatment are being constantly demanded by patients. If the physicians are not able to furnish the results of these methods and tests at suitable fees then the laity will demand that the state furnish them just as it furnishes diphtheria antitoxin and Wassermann tests. Nurses who are trained in diabetic treatment are of the greatest assistance to physicians. This will never be appreciated unless tried. For patients, too, who can afford it the simplest way to carry out treatment is to have the diet arranged by a nurse. Severe cases are incomparably better treated in this manner than by remaining in a hospital.

June 29, 1922, **186**, No. 26

Mental Hygiene in Relation to Present-Day Nursing. L. V. Briggs, Boston.—p. 867.
Pyelography: Preliminary Report. O. S. Lowsley, New York.—p. 873.
Importance of Early Operation in Congenital Umbilical Hernia. L. F. Watson, Chicago.—p. 875.
Treatment of Asthma and Associated Diseases in Children. A. R. Cunningham, Boston.—p. 876.
*Cholesteatoma of Temporal Bone. J. M. Shefferd, Fall River, Mass.—p. 877.

Cholesteatoma of Temporal Bone.—In the case reported by Shefferd, the tympanic cavity, the mastoid process and part of the squamous portion of the temporal bone were converted into one common irregular cavity.

Georgia Medical Association Journal, Atlanta

June, 1922, **11**, No. 6

Some of Phases of Texts on Pneumonias. E. C. Thrash, Atlanta.—p. 211.
Address to Eighteen Living Ex-Presidents of Medical Association of Georgia. F. K. Boland, Atlanta.—p. 217.
Ectopic Kidney: Report of Case. W. W. Anderson, Atlanta.—p. 221.
Median Episiotomy. D. C. Elkin.—p. 224.

Iowa State Medical Society Journal, Des Moines

June 15, 1922, **12**, No. 6

Medical Problems in Iowa. A. M. Pond, Dubuque.—p. 205.
Types of Severe Anemia. A. Stengel, Philadelphia.—p. 208.
The Present Status of the Treatment of Pernicious Anemia. P. B. McLaughlin, Sioux City.—p. 214.
*Pernicious Anemia: Study of One Hundred and Twenty-Seven Cases. F. J. Rohner, Iowa City.—p. 216.
Control of Hemorrhage in the Tonsil Operation. F. W. Bailey, Cedar Rapids.—p. 222.
Some Determining Factors in Nasal Sinus Diseases. G. F. Harkness, Davenport.—p. 224.
Combined Anesthesia. C. Ryan, Des Moines.—p. 230.

Diagnosis of Pernicious Anemia.—Of the diagnostic points chosen by Rohner five are considered of distinct positive evidence, and five contribute greatly to the diagnosis of pernicious anemia because of their negative evidence. Of positive value are: (*a*) history of remissions, (*b*) evidence of posterolateral cord involvement, (*c*) a red blood cell count below two and one-half millions, (*d*) a leukopenia, (*e*) abnormality of the red blood cells. Of the negative points, that is, factors that are against the diagnosis of pernicious anemia if absent are: (*a*) history of paresthesia, (*b*) glossitis, (*c*) a plus color index, (*d*) absence of free hydrochloric acid in the Ewald test meal, and (*e*) the abnormal excretion of urobilin and urobilinogen.

Journal of Experimental Medicine, Baltimore

June, 1922, **35**, No. 6

Ten Year Old Strain of Fibroblasts. A. H. Ebeling, New York.—p. 755.
Action of Four Aromatic Cinchona Derivatives on Pneumococcus. A Comparison with Optochin. L. D. Felton and K. M. Dougherty, New York.—p. 761.
Source of Virus in Blackhead of Turkeys; Administration of Ipecac and of Sulphur. E. E. Tyzzer and M. Fabyan, Boston.—p. 791.
*Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. VIII. Cultural and Morphologic Characters of Bacterium Pneumosintes. P. K. Olitsky and F. L. Gates, New York.—p. 813.
Peptase, Lipase, and Invertase of Hemolytic Streptococcus. F. A. Stevens and R. West, New York.—p. 823.
*Experimental Plethora in Dogs and Rabbits. E. B. Krumbhaar and A. Chanutin, Philadelphia.—p. 847.

Culture of Bacterium Pneumosintes from Influenza.—After artificial cultivation for a period of more than three years, *Bacterium pneumosintes* has maintained its original morphologic and cultural characteristics, when grown in the original medium. Adaptation to a saprophytic existence has been accompanied by a loss of pathogenicity. The strains used by Olitsky and Gates now grow readily under strictly anaerobic conditions in a variety of mediums with peptone broth as a base, enriched with fresh tissue, blood, or by the growth of other bacteria. Surface colonies have been obtained on blood agar plates in an anaerobic jar. These various methods of cultivation are adapted to special purposes. In broth cultures *B. pneumosintes* grows in larger forms than in the ascitic fluid-tissue medium, but the identity of the micro-organisms is proved by their serologic reactions and by reversion to the minute forms on transfer to the

original medium. These methods of cultivation are being used in studies of the nasopharyngeal secretions of influenza patients obtained during the present recurrence of influenza in New York City.

Experimental Plethora.—The effects of repeated transfusions of blood on the blood-destroying and blood-forming apparatus of normal and splenectomized dogs and rabbits are described by Krumbhaar and Chanutin. An anemia which developed despite continued blood transfusions in two dogs splenectomized during plethora was also studied.

Journal of Nervous and Mental Diseases, New York

June, 1922, **55**, No. 6

Diagnostic Value of Vegetative Disturbances in Diseases of the Nervous System. E. A. Spiegel, Vienna.—p. 465.
Neurosyphilis in Ex-Service Men. R. H. Prince, Philadelphia.—p. 485.
Findings in Five Cases of Corpus Striatum Disorder. T. Raphael and F. C. Potter, Kalamazoo, Mich.—p. 492.

Kansas Medical Society Journal, Topeka

June, 1922, **22**, No. 6

Atresia of Vagina. L. F. Barney, Kansas City.—p. 163.
Trend of Modern Diagnosis. R. D. Mussey, Rochester, Minn.—p. 167.

Military Surgeon, Washington, D. C.

June, 1922, **50**, No. 6

Tuberculosis and Its Relation to Warfare Gases.—p. 609.
Columbus Barracks Measles. H. H. Rutherford.—p. 619.
Mumps: Epidemiology and Influence of Disease on Noneffective Rate in Army. C. G. Sinclair.—p. 626.
Daily Physical Exercise Factor in Preventive Medicine. V. T. Scott.—p. 648.
Anti-Bolshevik Crimean Army of Denikin and Wrangel—Sanitary Department. C. S. Ford.—p. 652.
Varicocelectomy with Shortening of Scrotum. C. E. Fronk.—p. 687.
Notes on History of Military Medicine. F. H. Garrison.—p. 691.

New Jersey Medical Society Journal, Orange

June, 1922, **19**, No. 6

Surgical Affections of Right Upper Quadrant of Abdomen. C. G. Heyd, New York.—p. 151.
*Diabetes in Negro: Report of Eight Cases. H. I. Goldstein, Camden.—p. 157.
Organized Reserves. D. A. Kraker, Newark.—p. 162.
*Schick Test as Public Health Measure. J. Shapiro, Union Hill.—p. 164.

Diabetes in Negro.—Eight cases of diabetes in the negro are reported by Goldstein in a series of sixty-five cases of diabetes mellitus. Apparently, diabetes in the negro is much less common than in the white population. Syphilis is not an important causative factor in negro diabetics.

Schick Test for Schoolchildren.—Of 1,600 schoolchildren tested by Shapiro about 600 were found to be positive. He advocates the procedure.

New York Medical Journal and Medical Record

June 21, 1922, **115**, No. 12

Modern Commentaries on Hippocrates. J. Wright, Pleasantville, N. Y.—p. 721.
Tongue as Source of Systemic Infection. T. R. French, Brooklyn.—p. 725.
Auricular Fibrillation. F. W. Price, London.—p. 730.
Influenzal Sinusitis. H. Smith, New York.—p. 734.
*Bronchoscopic Cases of Dental Origin. H. H. Forbes, New York.—p. 738.
Four Cases of Open Safety Pin in Esophagus of Children Under Eleven Months of Age. E. J. Patterson, Pittsburgh.—p. 739.
Two Cases of Lung Tumor Treated Bronchoscopically. S. Yankauer, New York.—p. 741.
Treatment of Suppurative Conditions of Lung. T. E. Carmody, Denver.—p. 742.
*Pneumoperitoneum as Aid in Diagnosis of Cardiospasm. S. Iglauer, Cincinnati.—p. 745.
Hodgkin's Disease in Which Endoscopy Led to Diagnosis. L. M. Hurd, New York.—p. 746.
*Clinical Study of Biliary Secretions Obtained by Nonsurgical Drainage. G. W. McCaskey, Fort Wayne, Ind.—p. 747.
*Weight Reduction and Its Remarkable Effect on High Blood Pressure. R. H. Rose, New York.—p. 752.
Gallstone Colic: Its Cause and Treatment. H. Halpert, Scranton, Pa.—p. 755.
Dangers of Operations for Rectal Fistula. C. J. Drueck, Chicago.—p. 757.
Diagnosis of Carcinoma of Rectum. A. A. Landsman, New York.—p. 758.
Perforated Gastric and Duodenal Ulcer. A. H. Harrigan, New York.—p. 760.
Operating Room. J. F. X. Jones, Philadelphia.—p. 766.

Bronchoscopic Cases of Dental Origin.—Forbes cites five cases in which the foreign body aspirated into the bronchi was of dental origin, as: Gold crown in right main bronchus; tooth plate in left primary bronchus; lung abscess from root and small pieces of tooth inhaled, and amalgam fillings loosened during tooth extractions and aspirated while under the anesthetic.

Pneumoperitoneum as Diagnostic Aid in Cardiospasm.—Judging from the experience gained in a case cited, Iglauer believes that pneumoperitoneum should be of considerable value in the study of obscure cases of cardiospasm. From the evidence offered by pneumoperitoneum it seemed likely that the symptoms of cardiospasm in his case were due to adhesions between the diaphragm and the liver encroaching on the subdiaphragmatic esophagus.

Biliary Passages Seat of Focal Infection.—The importance of the gallbladder and bile ducts as the site of a focal infection is strongly emphasized by McCaskey who agrees with Friedenwald that a search for focal infection cannot be considered complete without a study of the bile obtained by nonsurgical drainage of the biliary apparatus. The clinical method of obtaining the biliary secretions for chemical and microscopical study is beset with difficulties which may be slight or insurmountable. In about 5 per cent. of the patients, McCaskey entirely failed to get the tube into the duodenum on the first trial. In some of them he subsequently succeeded. The time required varied from half an hour to three hours, and in a few extreme cases to several hours. He uses the fluoroscope constantly to determine when the tube is in proper position. By revealing the curves which the tube makes, the fluoroscope constitutes the most positive demonstration of the location of the tube. In approximately 70 per cent. of observations a dark colored, or B, bile was obtained by either an abrupt or gradual transition. In the remaining 30 per cent. it rarely ever happened that the light yellow bile underwent no changes, excepting in those cases in which the gallbladder had been removed or there was good reason to suspect that it was not functioning because of obstructed ducts or other causes. Both the gradual transition and the slighter grades of darkening, in McCaskey's opinion, are probably due to a slow extrusion of bile from the gallbladder. With regard to the cases showing sudden transitions there is no reasonable doubt.

Effect of Weight Reduction on Blood Pressure.—Weight reduction through dietetic adjustment Rose asserts causes improvement in several important symptoms either due to or associated with obesity. One of the most uniformly noticed and the most important of these is the reduction of blood pressure. The amount of this reduction is much greater than could be obtained by the use of drugs. Excepting Bright's disease, focal infection and incurable diseases, this method gives promise of being a therapeutic measure which can be relied on to reduce blood pressure. Cases amenable to this method of treatment maintain the low blood pressure if the diet is normalized at the conclusion of the reduction. Symptoms which seem to be dependent on the increased blood pressure are relieved as the blood pressure falls. These are shortness of breath, palpitation, edema of the lower extremities, and albuminuria. One of the worst forms of headache is due to high blood pressure. It is very successfully relieved by this method of treatment.

Northwest Medicine, Seattle

June, 1922, **21**, No. 6

Cesarean Section in Treatment of Eclampsia: Report of One Postmortem Delivery. H. E. Wheeler, Spokane.—p. 165.
Surgical Prevention of Sterility Due to Salpingitis. E. F. Ziegelman, Portland, Ore.—p. 168.
Cosmetic Surgery of Face, Neck and Breast. F. A. Booth, Seattle.—p. 170.
Barium Meal Study in Gallbladder Diagnosis. L. Kallen, Medford, Ore.—p. 172.
Analysis of Cases Handled by Salt Lake City Office of United States Public Health Service During 1921. B. W. Black, Salt Lake City, Utah.—p. 179.
Antiseptic Dye Treatment of Gonorrhea in Female; Experimental Studies. R. Jones, Seattle.—p. 182.
Diagnostic Problems in Pulmonary Tuberculosis. R. C. Matson, Portland, Ore.—p. 185.

Painless Labor. C. A. Smith, Seattle.—p. 189.
Helpful Technic for Operations on Thyroid. J. B. McNeithney, Tacoma, Wash.—p. 189.
Quinidin in Auricular Fibrillation. K. Winslow, Seattle.—p. 191.

Ohio State Medical Journal, Columbus

July, 1922, **18**, No. 7

*Syphilis of Aorta. C. W. McGavran and E. Scott, Columbus.—p. 477.
*Right Aortic Arch. R. O. Brigham, Toledo.—p. 484.
Megacolon. W. H. Fisher, Toledo.—p. 487.
Heart Disease in Pregnancy. W. G. Dice, Toledo.—p. 491.
Headaches. C. H. Hay, Cleveland.—p. 495.
Rarity of Adult Contact Tuberculosis. S. A. Douglass, Dayton.—p. 501.
Ether in Tuberculosis. C. R. Coate, Pleasant Hill.—p. 503.

Syphilis of Aorta.—As a result of observations it is the judgment of McGavran and Scott that the time to look for syphilis of the heart is when syphilis is first recognized as syphilis and the patient is known to be syphilitic. From that time on watch for it as one would for a beginning endocarditis in a case of rheumatic fever.

Right Aortic Arch.—The specimen of the right aortic arch described by Brigham is the first one observed in the anatomical laboratory of the University of Michigan during the dissection of about 1,400 cadavers, a fact showing the relative infrequency of incidence. The specimen was found in a male subject about 50 years of age. The heart was normal, and it occupied the normal position in the thorax. The arch lay anterior and to the right of the trachea and oesophagus. The branches of the arch were a reversal of the normal, namely, a left innominate, which gave origin to the left subclavian and the left common carotid. On the right side the right subclavian and the right common carotid were given off. This reversal was not accompanied by the transposition of any other organ of the body. The arch did not rise high above the heart as is sometimes the case. The descending aorta crossed the midsagittal plain obliquely to the left side before passing through the diaphragm. The fibrous remains of the left arch were about four centimeters in length. It extended from the left subclavian artery to the descending aorta and passed downward and backward to the left of the trachea, left recurrent laryngeal nerve and esophagus. The ligamentum ductus arteriosus was present on the left side about 2 cm. below the fibrous remains of the left arch and was about twice its diameter. The ductus was about 2 cm. in length. It united with the descending aorta about five millimeters distal to the attachment of the fibrous remains of the left aortic arch and communicated with the left pulmonary artery. The position of the ligamentum ductus arteriosus shows that it was the persistence of the left sixth brachial vessel. The left recurrent laryngeal nerve passed around the ductus arteriosus. The right recurrent laryngeal nerve passed beneath the arch of the aorta.

Philippine Journal of Science, Manila

February, 1922, **20**, No. 2

Citrus-Canker Control Experiments in Japan. H. A. Lee and A. Shimo.—p. 121.
New Brenthidal from the Philippines and Borneo. V. R. Kleine.—p. 153.
Foliar Transpiring Power of Coconut. S. F. Trelease.—p. 167.
Cultivation of Leishmania Infantum and Leptomonas Ctenocephali on Triple-N Medium. L. Leiva.—p. 179.
Digestive Properties of Philippine Papain. H. C. Brill and R. E. Brown.—p. 185.
Review of Philippine Paleontology. R. E. Dickerson.—p. 195.

Public Health Journal, Toronto

May, 1922, **13**, No. 5

Problems of Girlhood and Motherhood. E. Guest.—p. 193.
Study of Infant Deaths in Toronto During Summer of 1921. A. G. Fleming.—p. 199.
Some Provincial Vital Statistics. A. C. Jost.—p. 204.
Sex Education.—p. 215.
Victorian Order of Nurses for Canada.—p. 220.
Mental Defect and Venereal Disease. F. E. Brown.—p. 222.

Rhode Island Medical Journal, Providence

June, 1922, **5**, No. 6

Significance of Bladder Symptoms in Women. E. Stone and J. McCann, Providence.—p. 253.
Treatment of Ear Infections in Contagious Diseases. J. J. Gilbert, Providence.—p. 257.

Southern Medical Journal, Birmingham, Ala.

June, 1922, **15**, No. 6

*Pulsus Alternans: Its Significance and Recognition by Ordinary Clinical Methods. R. Lyons, New Orleans.—p. 431.
Use of Copper Filter in Roentgen-Ray Treatment of Deep Seated Malignancies. T. A. Groover, A. C. Christie and E. A. Merritt, Washington, D. C.—p. 440.
European Impressions and Personal Experience in the Use of High Voltage Roentgen Rays in Deep Seated Malignancy. R. H. Millwee, Dallas, Texas.—p. 444.
Practical Status of Deep Therapy with Advent of Higher Roentgen-Ray Intensities. E. C. Ernst, St. Louis.—p. 448.
*Lamblia Intestinalis; Report of Cases. J. E. Knighton, Shreveport, La.—p. 457.
*Lamblia Intestinalis Infestation and Its Treatment. S. K. Simon, New Orleans.—p. 458.
Micrococcus Lanceolatus, with Necropsy Report. O. W. Hill, Knoxville, Tenn.—p. 465.
Field Work on Tuberculosis. H. Boswell, Sanatorium, Miss.—p. 466.
Possibilities of Cooperation of Railroad Officials with Local, State and Federal Boards of Health in the Prevention of Disease. J. P. Bowdoin, Adairsville, Ga.—p. 468.
Operative Treatment of Certain Fractures: Femur, Humerus, Forearm. E. W. Ryerson, Chicago.—p. 473.
Method of Treating Selected Fractures of Long Bones. W. B. Owen, Louisville.—p. 476.
Treatment as Applied on the Fracture Service of City Hospital, Dallas. W. B. Carroll, Dallas, Tex.—p. 479.
Treatment of Cancer of Uterus with Radium. L. Frank, Louisville.—p. 489.
Present Status of Radium Therapy. E. S. Lain, Oklahoma City.—p. 495.
Management of Tuberculous Laryngitis. W. V. Mullin, Colorado Springs.—p. 501.
Indications for Operation on Middle Turbinate. H. Bailey, Springfield, Mo.—p. 509.

Pulsus Alternans.—Lyons has been impressed by the fact that if blood pressure readings were performed more carefully, bearing in mind the possibility of the presence of pulsus alternans, this symptom would be far more frequently detected by physicians in general practice than it is at present. Owing to the fact that many physicians take graphic records only of cases which show an irregular cardiac action, the presence of pulsus alternans frequently eludes them, for here the pulse may be regular with little or no acceleration. Furthermore, pulsus alternans may be very transient, rendering the taking of graphic records impractical in many instances. The careful use of the auscultatory blood pressure method in all cardiorenal cases, especially accompanied by hypertension, will be of great value in detecting this condition.

Magnesium Sulphate in Lamblia Intestinalis Infestation.—Knighton believes that the intestinal tract may be rid of these parasites by introducing magnesium sulphate solution in fairly large quantities into the duodenum. Of course, the solution does not come in contact with those that are adhering to the walls of the gallbladder and are not expelled. The remaining parasites multiply rapidly and soon reinfect the duodenum.

Lamblia Intestinalis Infestation.—Simon reports eight cases and besides recording the many sided clinical aspects presented, he directs attention to the importance of recognizing the infection and to the need of determining the rôle it might play in the causation of some of the doubtful cases of intestinal disturbances peculiar to the South. The eradication of giardia infection, once it has become firmly entrenched in the intestinal tract, has proved a signally unsuccessful undertaking. In two cases reported previously by Simon, duodenal lavage, with Jutte solution, was given a thorough tryout. In one case the cysts promptly disappeared from the stools, but control has been lacking in determining the permanence of this effect. In the other case the results proved disappointing.

West Virginia Medical Journal, Huntington

May, 1922, **18**, No. 10

Clinical and Surgical Study of Fifty Consecutive Pathologically Demonstrated Cases of Gallbladder Diseases. R. K. Buford, Charleston.—p. 419.
Interpretation of White Blood Count. F. C. Hodges, Huntington.—p. 428.
Radium in Treatment of Cancer of Cervix Uteri. L. Frank, Louisville.—p. 432.
Opportune Appearance of Mental Symptoms in Those Accused of Crime or Facing Crisis in Life. T. Diller, Pittsburgh.—p. 438.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

May 1922, **26**, No. 12

Radiographing Spine and Pelvis. H. J. Suggars.—p. 382.

British Journal of Psychology, London

April, 1922, **2**, No. 3

Experimental Study of Mechanism of Hallucinations. M. Prince, Boston.—p. 165.
Spiritual Significance of Psychoanalysis. B. M. Hinkle.—p. 209.
Two Cases of War Neurosis. J. Young.—p. 230.
Mental After-Effects of Sleeping Sickness in School Children. C. Burt.—p. 237.

British Medical Journal, London

June 10, 1922, **1**, No. 3206

Hyperthyroidism. G. R. Murray.—p. 905.
*Pulmonary Sign in Acute Infections of Biliary Tract. D. P. D. Wilkie.—p. 908.
Cesarean Section: With Special Reference to Present-Day Indications for Operation. C. J. G. Taylor.—p. 909.
Cesarean Section. S. J. Cameron.—p. 911.
Eclampsia: Evolution as Causative Factor. S. E. Kark.—p. 912.
Continuous Treatment in Surgical Tuberculosis. F. W. Goyder.—p. 914.
Nitrogen Method as Aid to Differential Diagnosis in Mental Disease. R. V. Stanford.—p. 915.
Poisoning by Butter of Antimony. W. Bell.—p. 917.
Differential Diagnosis Between Cerebral Hemorrhage and Diabetic Coma. E. D. Spackman.—p. 918.
Treatment of Early Cases of Cholera with Volatile Oils. G. O. F. Sealy.—p. 918.
Antenatal Treatment of Congenital Syphilis with Arsphenamin and Mercury. N. F. Rowstron.—p. 318.

Pulmonary Sign in Acute Infections of Biliary Tract.—Wilkie has found that crepitations at the right lung base occur in quite a fair percentage of cases of acute biliary infection. This pulmonary sign may also be found when the infection is located in the ducts and when the gallbladder is not the chief seat of trouble.

Edinburgh Medical Journal

June, 1922, **28**, No. 6

*Etiology of Malignant Disease and Leukemia: Lymphoma and Lympho-Sarcoma Experimentally Produced in Mouse. J. Young.—p. 233.
Myiasis Oestrosa: Occurrence in Human Subject of Larva of Hypoderma Bovis. D. M. Greig.—p. 258.
Spinal Anesthesia. D. N. Kalyanvala.—p. 267.

Etiology of Malignant Disease and Leukemia.—The bacteriologic investigations made by Young and experimental results he believes support the view that malignant disease and the related leukemic phenomena, both in the human subject and in the mouse, are dependent on an infection of body cells by an organism which, in each case, has specific characters. Whether the human and mouse organisms are identical and depend for their slightly differing morphologic characters on the difference in the hosts is still undetermined. The experiments demonstrate that the human organism is capable of producing proliferative lesions in mice. Experimental proof of the relationship of the organism to carcinoma is lacking in the sense that only in a small proportion of cases has a malignant epithelial growth been found in the injected animals. The production, on the other hand, of a progressive and malignant neoplastic change in mesodermic cells in a large number of injected animals indicates that the mouse organism is capable of producing a true malignant tumor. The experiments suggest that in the healthy animal the only tissue that is capable of responding to the stimulus of the organism by proliferating in a malign fashion is the lymphoid tissue, which is presumably built up of cells that retain their embryonic power of free division into adult life. Earlier Young suggested that human carcinoma is an infection by an organism which passed one phase in the cancer cell. This has been followed in the present paper by the complete and convincing demonstration of such an intracellular phase in the experimentally produced malignant phenomena of the mouse. Finally, the investigations incidentally provide data in support of the contention that the leukemic phenomena and lymphosarcoma are related to one another in regard to their ultimate etiology, and that these states are, on etiologic grounds, related to ordinary malignant disease.

Irish Journal of Medical Science, Dublin

May, 1922, **5**, No. 3

*Case of Infantile Splenic Anemia (Von Jaksch). J. Craig and A. C. O'Sullivan.—p. 97.
Milk and Public Health. J. W. Bigger.—p. 102.
New Medical School at Frankfurt-am-main. W. Doolin.—p. 112.
Blood Crisis in Pernicious Anemia Precipitated by Blood Transfusion. J. H. Pollock.—p. 119.
Fatal Otitis Media Without Perforation. H. C. Drury.—p. 121.

Fatal Case of Infantile Splenic Anemia.—A fatal case of infantile splenic anemia occurring in a girl twin, aged 16 months, is reported by Craig and O'Sullivan. The other twin—a boy—and three older children were healthy as were also the parents of the children. The twins were breast-fed.

Journal of Tropical Medicine and Hygiene, London

June 1, 1922, **25**, No. 11

*Genuine Case of Malarial Polyneuritis. R. W. Mendelson.—p. 139.

Malarial Polyneuritis.—In Mendelson's case the neuritis began with difficulty in walking and in using the upper extremities. This difficulty rapidly increased, to such an extent that the man could neither walk nor control the movements of his arms. On being admitted to hospital in an unconscious state, a blood examination demonstrated a severe infection with *Plasmodium falciparum*. Immediate and intensive antimalaria treatment was instituted: 40 gm. quinin were given intravenously the first twenty-four hours, after which the patient regained consciousness. Intensive treatment was continued for one week; the blood showed parasites until the sixth day of treatment. One week after the patient entered the hospital the paralysis was complete in the lower extremities. The upper extremities were also affected, but to a less degree. The trunk muscles, those of the neck and face, eyes, tongue, respiration, heart and other organs were not affected to an appreciable degree, if at all. No sensory disturbances; no mental symptoms; very slight edema of both ankles. Urine, negative.

Lancet, London

June 10, 1922, **1**, No. 5154

Radiations in Treatment of Cancer. R. Knox.—p. 1131.
Acute Intestinal Obstruction. D. P. D. Wilkie.—p. 1135.
*Certain Conditions Associated with Deficient Secretion in Upper Alimentary Tract. T. I. Bennett and E. C. Dodds.—p. 1138.
*Nitrous Acid Poisoning. W. St. C. McClure and H. Heap.—p. 1142.
*Complement Fixation in Gonorrhea: One Thousand Tests. T. E. Osmond.—p. 1143.
Basal Fibrosis of Lung in Children. G. T. Hebert.—p. 1145.
*Case of Infantile Acute Endocarditis. E. F. Skinner.—p. 1147.

June 17, 1922, **1**, No. 5155

Clinical Symptoms of Cerebellar Disease and Their Interpretation. G. Holmes.—p. 1177.
Bacterial Origin of Dental Caries. J. McIntosh, W. W. James and P. Lazarus-Barlow.—p. 1183.
Researches on Yellow Fever. H. Noguchi.—p. 1185.
Acute Suppuration of Middle Ear: Early Drainage of Mastoid Antrum. D. McKenzie.—p. 1191.
Diathermy in Surgical Practice. W. H. Clayton-Greene.—p. 1192.
Case of Foreign Body Impacted in Right Secondary Bronchi. G. N. Biggs.—p. 1194.
Gangrene of Small Intestine. J. N. Greene.—p. 1194.
Case of Acute Mania. Following Operation for Extraction of Senile Cataract. G. B. Lowe.—p. 1195.

Deficient Secretion in Upper Alimentary Tract.—Bennett and Dodds assert that complete absence of gastric hydrochloric acid, and hence of active gastric ferments, is frequently encountered in healthy persons. A precisely similar phenomenon is frequently seen in dyspeptic subjects. The increased rapidity of gastric emptying time in such cases may be the cause of increased hunger contractions, aerophagy and flatulence. In rare cases an increased secretion of mucus is seen in such subjects; this is sometimes an indication of true gastritis and may be secondary to a pulmonary or nasopharyngeal infection. In other rare cases of achylia there is delayed gastric emptying; in such subjects there is usually marked visceroptosis. In a patient proven

to have pancreatic sclerosis, the fall of alveolar carbon dioxid tension, which normally occurs on the passage of food through the pylorus, was absent. In patients suffering from pernicious anemia there is, in addition to complete achylia gastrica, a marked diminution in the "pancreatic fall" of alveolar carbon dioxid tension. Such patients have clinically been shown frequently to have signs of pancreatic insufficiency. Similar pictures of alveolar carbon dioxid tension and achlorhydria have been found in severe secondary anemias and cachectic conditions. The authors believe that the achylia of pernicious anemia is secondary to the blood condition. At least four types of pictures are given by the laboratory examination of cases of gastric carcinoma. A type characteristic of extreme pyloric stenosis; a type characteristic of cachexia; a type with excessive secretion of mucus; a type difficult to distinguish from benign achylia.

Nitrous Acid Poisoning.—McClure and Heap record the accidental poisoning of six persons by nitrous acid caused by the inadvertent admixture of sodium nitrate with their food. The symptoms were the same in all, but varied in degree. The first signs of illness appeared between fifteen and thirty minutes after eating. The patients at first felt dizzy and "swimmy," with a great "flushing and throbbing" of the head. They had difficulty in breathing as if they were being stifled; there was a slight pain in the stomach and a feeling of nausea. All but one vomited. They all showed a well marked greyish blue color of the face and lips. No pain was complained of; there was no diarrhea. They all recovered.

Complement Fixation in Gonorrhea.—In Osmond's opinion, the complement-fixation test in gonorrhea does not seem to have received the recognition it deserves. He considers its value in diagnosis at least as great as that of the Wassermann reaction in syphilis. The reaction becomes positive earlier in the disease than does the Wassermann in syphilis, and it does not tend to disappear as a result of treatment till some time after the disease is cured. A series of 1,000 tests is discussed.

Infantile Acute Endocarditis.—Skinner's patient was only 4 months old and was brought to him because of an intractable eczema. Apart from the skin eruption the child appeared remarkably well. The baby was taken to the hospital and put to bed about 5 p. m., receiving his first feed at 6 (modified cow's milk taken well with no regurgitation), after which he went to sleep, waking at 2 a. m. He was again fed, and went to sleep immediately, waking once more at 6, when he was given a third feed. Again he went to sleep, and at 8 a. m. when the day nurse went to dress the eczema, she found the child sleeping and decided to leave him for half an hour, intending to carry out the dressing later; but on returning at 8:30 the baby was dead. He had made no cry, and had not even turned over; there was no cyanosis or frothing at the mouth, nothing to suggest a cause of death. At the necropsy it was found that all the organs were healthy with the exception of the lungs and heart. On the surfaces of both lungs were several bluish marks about the size of a mustard seed which on closer examination proved to be minute subpleural hemorrhages. The heart appeared normal in size and color, but on section it was observed that the tricuspid valve was somewhat less smooth than normal, and, perhaps, a little pinker than might have been expected, though the right auricle and pulmonary artery appeared to be perfectly healthy. The mitral valve, however, was found to be gravely involved, the free edges and auricular surfaces of the flaps being extensively covered with a growth of soft vegetations, not large, and quite recent, being shiny and pink in color and extremely friable. The coronary arteries appeared to be patent and there were no congenital defects of any kind present. There had been no clinical signs of any pulmonary or cerebral disturbance, nor were there present any pathologic features, such as pulmonary infarcts or thrombosis of cerebral blood vessels to account for such a sudden death. The most likely explanation, Skinner states, is the onset of ventricular fibrillation consequent on the presence of an embolus in a coronary artery sufficiently small to have passed beyond the openings.

Sei-I-Kwai Medical Journal, Tokyo, Japan

May, 1922, **41**, No. 2

Experimental Investigation on Antibody Formation Against Transplantable Mouse Carcinoma. K. Yamagiwa and T. Kimura.

South African Medical Record, Cape Town

May 27, 1922, **20**, No. 10

Typhus Literature. A. Pijper.—p. 182.
Case of Posterior Lenticonus. F. H. Robinson.—p. 196.

Archives des Maladies du Cœur, Etc., Paris

May, 1922, **15**, No. 5

*Capillaroscopy. C. Laubry and J. Meyer.—p. 265.
*Gonococcus Endocarditis. G. Lion and Levy-Bruhl.—p. 289.
Ventricular Extrasystoles with Paroxysmal Tachycardia. L. Gallavardin. —p. 298.
Thrombostasis in the Heart. R. Lutembacher.—p. 307.

Capillaroscopy.—Laubry and Meyer found capillaroscopy interesting in hypertension but were unable to obtain any clinical information from it which could not be determined by other means.

Gonococcus Endocarditis.—The serodiagnostic test was positive for the gonococcus in the woman of 29 with infectious endocarditis. She died about two months after the first symptoms. They had followed a painful, acute polyarticular disease supposed to be rheumatism. Only 50 instances are on record of endocarditis with gonococci cultivated from the vegetations in the heart. Two cases in this compilation are quoted from THE JOURNAL. All but 13 were men in the 50 cases. The clinical picture in the case reported here included daily attacks of fever of the sepsis-pyemia type, preceded by chills and followed by profuse sweating. The only sign of embolism was the punctate purpura. In some of the cases on record there were metastatic abscesses in spleen, liver, kidneys, lungs or joints. In other cases the fever was continuous, suggesting typhoid, which seemed to be confirmed by the stupor, diarrhea and enlargement of the spleen. Auscultation in the case reported revealed the murmur of insufficiency, but the palpitations and other functional symptoms were masked by the severe infection and weakness. Agglutination of the gonococcus by the serum was the only clue to the nature of the disease before necropsy. The gonococcus was cultivated from the blood in some of the cases but only once in four or five tests. The sero-agglutination test is the simplest, and the most constant in its findings, by Porges' technic. He acidifies the culture and boils it, and then neutralizes it, after which it can be agglutinated by the patient's serum. In this case, agglutination occurred at 1:50, but 1:20 is the rule for gonococcus rheumatism, etc. The serodiagnosis may allow the use of an autovaccine early enough to abort the disease.

Bulletin de l'Académie de Médecine, Paris

May 30, 1922, **87**, No. 22

Necessity for Abolishing Privilege of Home Distilling. G. Thibierge.—p. 570.
*Medical Impressions of America. F. de Lapersonne.—p. 574.
*Cholelithiasis from Surgical Standpoint. P. Bazy.—p. 578.
Fibrous Abscess in the Liver. T. Legry.—p. 582.

Medical Impressions of America.—This communication was summarized in the Paris letter, p. 146.

Cholelithiasis from Surgical Standpoint.—Bazy advocates removing the gallbladder when there is cholecystitis, whether there are gallstones or not. "We should treat it as we treat appendicitis."

Bulletin Médical, Paris

May 20, 1922, **36**, No. 21

*Treatment of Ptosis. G. Lyon.—p. 407.
Auscultation of Abdomen. A. C. Guillaume.—p. 412.

May 27, 1922, **36**, No. 22

What Has Been Accomplished in the Line of Hygiene for Children. H. Méry.—p. 431.
Care for Children in Tuberculous Families. P. Armand-Delille.—p. 434 and p. 437.
Experimental Psychology. J. M. Lahy.—p. 438.
Medical Inspection of Schools and Choice of Trade. G. Heuyer.—p. 441.

Treatment of Ptosis.—Lyon insists that gymnastic exercises are the only rational treatment for ptosis. The exercises should be done standing and reclining, and breathing exercises should be alternated with the others. Drawing in the abdominal wall while holding the breath, and relaxing the wall as one breathes deep, is direct exercise for the stomach. Among the more useful exercises done while reclining is to make movements with both arms and legs as if swimming, spreading the legs as far apart as possible. Swimming and canoeing are the only sports he advises, and these only when the ptosis shows signs of improvement. Rubbing and hydrotherapy aid in making the abdominal wall over, as it were, and thus conquering the tendency of the tissues to sag.

Bulletins de la Société Médicale des Hôpitaux, Paris

May 12, 1922, **46**, No. 16

*Tertiary Syphilitic Joint Lesion. P. Lechelle.—p. 756.
Fatal Insufficiency of Liver in Dysentery. Labbé and Bith.—p. 760.
*Painful Gynecomastia. Laederich and Le Goff.—p. 764.
*Fatal Emetin Polyneuritis. F. Soca.—p. 768.
*Sign of Impending Pericarditis. Dargein and Plazy.—p. 772.
General Hypertrichosis with Dog-Like Face. P. Pagniez and L. de Gennes.—p. 773.
*Obliterating Thrombo-Angeitis. A. Gilbert and A. Coury.—p. 776.
*Bronzed Diabetes. M. Labbé and H. Stévenin.—p. 785.
*Thoracoplasty for Tuberculosis of One Lung. R. Burnand.—p. 788.
*Treatment of Tabetic Pains. Sicard and J. Lermoyez.—p. 797.

Tertiary Syphilitic Joint Lesion.—The right ankle had long been swollen and painful in the woman of 41, apparently a tuberculous "white swelling," refractory to all treatment for years. Finally the Argyll Robertson sign gave the clue to the nature of the osteo-arthropathy, and it rapidly retrogressed under treatment for syphilis.

Painful Gynecomastia.—Laederich's patient was 76 when his mammary glands became much enlarged and painful. Under roentgen irradiation conditions returned to clinically normal, but the testicles became tender. An abscess developed in one breast after the first roentgen exposure, but the abscess was in the nonexposed breast.

Emetin Polyneuritis.—Soca's case of fatal polyneuritis followed eighteen days of treatment with a total of 1.05 gm. of emetin for dysentery. He wrote that he had encountered about thirty cases of toxic action from emetin, and it proved fatal in quite a number. Symptoms of toxic action were regularly observed when the dose of 8 cg. was repeated several days in succession. In this fatal case death occurred with bulbar symptoms. [The death of Soca, a leading clinician of Montevideo, professor and senator, was recorded in THE JOURNAL, May 13, 1922, p. 1471.]

Sign of Incipient Pericarditis.—Dargein was able to confirm in two cases the change in the second sound at the pulmonary orifice, to which Josserand has called attention as warning of the erethism of the heart as disease is becoming established. The sound is described as a ringing, clangorous clapping *(éclatant, clangoreux, vibrant, claqué)*.

Obliterating Thrombo-Angeitis.—Gilbert and Coury describe the first case to be published in France of the "nonsyphilitic arteritis obliterans of Jews." The man of 36 is an immoderate smoker, but the intense and continuous pains from the vascular affection, the suppuration, and several operations in the course of the year had not entailed anemia. He has been free from pain since a Lisfranc amputation in August, and the trophic troubles in the hands have retrogressed although the left radial pulse is imperceptible, as also the pulse in the right foot. The affection seems to be restricted to Jews from Central Europe.

Attenuated Bronzed Diabetes.—The special character of Labbé's case was that although the glycosuria could not be reduced below 20 or 30 gm. a day, and there was cirrhosis of both liver and pancreas, yet the condition had persisted for fourteen years before the fatal exacerbation.

Thoracoplasty for Pulmonary Tuberculosis.—Burnand calls attention to the success in six of seven cases treated by resection of the first ten ribs, the resected segments close to the vertebrae, and from 3 cm. to 15 or 20 cm. long. The results, he says, have been "so satisfactory, so rapidly satisfactory, so complete," that he recently sent three more patients to Roux for this thoracoplasty. One man of 40 in this group succumbed to septicemia from infection of the wound, but the cavity in the lung had been completely obliterated. The operation should be done under regional anesthesia, and any progressing lesion in the other lung, no matter how minute, is an absolute contraindication. Burnand knows of an instance of fatal pulmonary edema after the thoracoplasty in a patient with lesions in both lungs. He advises the thoracoplasty only when therapeutic pneumothorax is out of the question, but it has certain advantages over the latter. On the other hand, it does not allow the functional recuperation of the lung thus treated.

Treatment of Tabetic Crises.—Sicard and Lermoyez present evidence that the tabetic crisis is brought on by some superposed factor affecting the circulation, a change in temperature or barometer pressure, an error in diet, or abuse of alcohol. These seem to induce a kind of vasomotor shock, a hemoclastic crisis, and treatment to combat this shock may ward off and cure the pains in tabes. Epinephrin is the treatment of choice for this. In three patients suffering from tabetic gastric crises, rebellious to subcutaneous injection even of large doses of morphin, the intravenous injection of 0.5 mg. of epinephrin in 10 c.c. of physiologic saline was followed in from half an hour to two hours by complete or nearly complete subsidence of the pain. The injection can be repeated in a few hours or the next day. They even injected up to 1 mg. without disturbance. Calcium chlorid had been tried without effect in these cases.

Journal de Médecine de Bordeaux

May 25, 1922, **94**, No. 10

Treatment of Habitual Constipation. J. Carles.—p. 295.
*A Case of Megaesophagus. G. Chavannaz and Nard.—p. 300.
Results of Heliotherapy at the Arès Aerium. Lapauze.—p. 302.
French Medical Mission in Spain. P. Mauriac.—p. 304.

Conservative Treatment of Dilatation of the Esophagus.—Chavannaz and Nard report a case of megaesophagus in a woman of 53. The symptoms had developed after acute bronchitis. The patient found that she was suddenly unable to swallow solid food and, later, even liquids did not pass into the stomach. The Wassermann test was negative, and she seemed healthy otherwise. Radioscopy two months after the onset of symptoms revealed stenosis of the cardia and extreme dilatation of the esophagus, which was filled with fluid. Esophagoscopy confirmed the spasm of the cardia. They applied systematic measures to dilate the cardia, at weekly sittings, and immediately witnessed the transformation of the patient. The vomiting ceased and solid food began to pass into the stomach. Four months later the woman had gained over 13 kg. in weight, and esophagoscopy showed that the esophagus had returned to normal size.

Paris Médical

May 20, 1922, **12**, No. 20

Recent Literature on Diseases of Liver, Spleen and Pancreas. E. Chabrol.—p. 409.
*Manifestations in the Stomach of Cholelithiasis. P. Harvier.—p. 425.
Remote Results of Gallstone Operations. P. Mathieu.—p. 428.
*Edema of Ascending Colon. P. Carnot and E. Libert.—p. 430.

May 27, 1922, **12**, No. 21

Necessity for Reform in the Management and Care of Mental Disease. H. Claude.—p. 433.

Gastric Manifestations of Cholelithiasis.—Harvier confirms that the gastralgic form of lithiasis is quite frequent. The attacks of pain are transient, but they resemble those of tabes and pancreatitis. The paroxysm seems to be an equivalent for liver colic, and tenderness in the gallbladder region and along the course of the phrenic nerve may give the clue. In other cases the cholelithiasis induces dyspepsia; the clinical picture may resemble that with any functional or organic disease of the stomach or duodenum. The remissions characteristic of an active ulcer are common with this gallstone dyspepsia. The pains are more likely to develop and be more intense at night than during the day, and they may spread to the right shoulder, and are aggravated by deep breathing, stretching the trunk, jars, and fatigue. Fat and eggs are liable to bring on an attack, as also the approach of the

menses. Hypochlorhydria usually accompanies gallstone dyspepsia of long standing.

Edema of the Intestine.—The edema of the ascending colon, in Carnot's case, was the result of compression of the superior mesenteric vein by two large gallstones in the common bile duct.

Schweizerische medizinische Wochenschrift, Basel

May 18, 1922, **52**, No. 20

*Transmission of Smallpox by Flies. H. Hunziker and H. Reese.—p. 469.
*Spinal Cord Tumors. O. Veraguth.—p. 476.

Smallpox and Flies.—The conditions in a recent epidemic of 43 cases at Basel indicated the possibility that contagion had occurred by means of flies.

Spinal Cord Tumors.—Veraguth describes the case of a woman of 53 who recovered completely after removal of a subdural neoplasm. The special feature of the case is that intercostal neuralgia for eleven years, rebellious to all treatment, disappeared completely after removal of the spinal tumor. The neuralgia had evidently been the first sign of trouble, but the tumor was eleven years developing to a size that induced other symptoms. In another case a sarcoma required resection of part of the second to the seventh cervical vertebrae. The cure was complete and the motor function of the spine does not seem to be impaired in the least. The upper vertebrae might have been spared, as the tumor was found lower than anticipated. The extreme tenderness of the vertebrae above was misleading. The woman of 32 had been under treatment for six weeks for supposed severe hysteria before the tumor was suspected. In the case first mentioned, a medical authority had insisted to the very last that the symptoms were of purely psychic origin.

Policlinico, Rome

May 15, 1922, **29**, No. 20

Theory and Practice of Protein Therapy. S. Belfanti.—p. 637. Conc'n.
*Amebic Abscess in Liver. O. Falzi.—p. 648.
*Peritoneal Urine Reaction. S. Solieri.—p. 651.
*Indicanuria. V. Sebastiani.—p. 653.

Emetin in Amebic Abscess in Liver.—Falzi reports the complete and permanent cure under emetin alone of an amebic abscess in the liver of a man of 29. No microorganisms could be cultivated from the pus obtained by puncture of the liver, but the ameba was found in the stools, and the history showed recurring dysentery during the preceding six years, with symptoms from the liver. He increased 8 kg. in weight during the forty-five days of emetin treatment.

The Sgambati Peritoneal Urine Reaction.—Solieri expatiates on the importance of this reaction as a guide not only for diagnosis and prognosis but also as an indication when and how to operate. The reaction was described recently in THE JOURNAL, June 17, 1922, p. 1914. This sign may warn of impending perforation in typhoid; as the ulceration approaches the serous membrane, the peritoneum suffers, and gives the Sgambati reaction before perforation has actually occurred. The urine should be tested for it every day during the second week and later, as operative intervention is incomparably less dangerous before than after the bowel has perforated.

Test for Indicanuria.—Sebastiani has found that commercial hydrochloric acid to which 2 per thousand iron filings or iron rust have been added forms a sensitive and reliable test for indican in the urine.

May 22, 1922, **29**, No. 21

The Intermediate Metabolism in Athrepsia. S. de Villa and G. Aiello.—p. 673.
Hydatid Cysts in Unusual Locations. L. Baccarini.—p. 676.
Epidemic Singultus. F. Buffone.—p. 682.
*Peritonitic Meteorism. A. Cerioli.—p. 683.

Prophylaxis of Peritonitic Meteorism.—Cerioli queries whether it might not be possible to introduce a tube into the rectum in abdominal operations in which peritonitic complications are feared. The assistant might introduce the tube, and the operator manipulate and guide it until the tip reached the colon. Necropsy findings have shown the feasibility of this, and that it might have averted the fatal outcome.

Riforma Medica, Napies

April 17, 1922, **38**, No. 16

*The Secondary Rays in Roentgenization. C. Guarini.—p. 361.
*The Mechanism of the Cardiac Reflexes. S. Lafranca.—p. 364.
Therapy of Diphtheria. R. Fuà.—p. 373.
Recent Literature on Appendicitis. E. Aievoli.—p. 375.

April 24, 1922, **38**, No. 17

The Sinus Node in the Mammalian Heart. D. Pace.—p. 385.
Pathogenesis of Nephrosis. U. Parodi.—p. 389.
Radiography of Interlobar Hydatid Cyst. A. Lama.—p. 391.
Dosage in Pharmacology. P. Piccinini.—p. 392.
Nosography of Febriculae. I. Jacono.—p. 394.

The Secondary Rays in Roentgenization.—Guarini describes Ghilarducci's many years of experiments with direct radiotherapy supplemented by the generating of secondary rays by bismuth taken internally, or by a sheet of lead opposite the source of the rays or by ionophoresis of a silver salt. The latter method was successfully applied in a case of cancer of the cheek and nose, published Feb. 24, 1921. He has been successful also in treating lupus by irradiating from the sound side with a sheet of lead in close contact with the lesion. Guarini has been applying this method also and reports a case of lupus of the cheek and lip, of three years' standing, cured by three applications of this combination. The rays were applied through the mouth to the inside of the cheek, with a sheet of lead pressed against the patch of lupus outside. The success was equally complete in a case of lupus of the hand, and another with a lesion on the ankle. He is now applying this Ghilarducci method on a large scale.

The Heart Reflexes.—Lafranca analyzes the mechanism of the various reflexes affecting the heart in normal and pathologic conditions. Among them he mentions the contraction of the myocardium under precordial percussion, while dilatation is observed with percussion of the first dorsal vertebrae.

Deutsche medizinische Wochenschrift, Berlin

April 28, 1922, **48**, No. 17

*Diet in the Treatment of Diabetes. H. Strauss.—p. 546.
Weather in Relation to Disease. Prinzing.—p. 549.
Orthopedic Treatment of Rachitic Deformities. Wollenberg.—p. 551.
Colloid Instability as Reaction to Toxic Action. Darányi.—p. 553.
Mycosis Fungoides and Noma. Rüsing and Schulte.—p. 555.
Therapeutic Inflammation and Fever. P. Schober.—p. 556.
*Treatment of Hyperhidrosis. M. Joseph.—p. 557.
Masked Scurvy. Edith Alexander-Katz.—p. 557.
Apparatus for Pneumothorax Treatment. A. Hofvendahl.—p. 558.
Theory of Internal Secretion in Relation to Normal and Pathologic Physiology. A. Weil.—p. 559.
Respiratory Disturbances from Surgical Affections. G. Ledderhose.—p. 562.

Problems of Diet in the Treatment of Diabetes.—Strauss remarks that, valuable as have been the experiences of the war with regard to the effect of undernutrition on certain cases of diabetes, they have changed nothing in the plan of treatment that he had previously worked out for diabetic patients. It is more important than ever to study carefully the individual tendency to endogenous acidosis, to discover for each diabetic the kind of diet that best corresponds to his tolerance for carbohydrates and best fits his capacity for the combustion of acetone bodies. These seldom run parallel. Special tolerance tests must in every case precede the institution of any particular diet. For some patients the control of the amount of protein ingested is even more important than the carbohydrate intake. Starchy substances that have to be acted upon for some time by the gastro-intestinal juices before they are dissolved are better tolerated than those in more easily digestible form. For the same reason, a proper proportion of fat should be taken with the meals as the fat prolongs the stay in the stomach and thus retards absorption of carbohydrates from the intestine. Reduction of the protein intake often increases the carbohydrate tolerance. For the permanent diet of patients with marked acidosis, a practically carbohydrate-free diet is not admissible in most cases. According to the severity of the cases there should be a more or less frequent change in the diet, the purpose being at times to combat glycosuria and at other times acidosis. In numerous cases he found von Noorden's *Mehlsuppen* (flour soups) of great value. He combats severe acidosis and resistant glycosuria with fast days and days of drinking, but no food. He does not approve of protracted fasting, as he has seen

in several cases sudden loss of weight and marked weakness resulting therefrom. On vegetable days and "beverage" days he uses alcoholics freely, holding that these save on the total calories required, and also keep down the acidosis. The fat intake must be reduced in some cases. The restriction of fat and the general undernutrition during the war prevented often the development of the typical coma of diabetes, so that more diabetics made progress than in peace times. His study of 1,500 cases of diabetes in soldiers during the war showed that a much larger proportion of the moderate cases were favorably influenced by treatment than is the case in civilian practice. He ascribes this to the fact that the diabetes was recognized earlier and given thorough treatment more promptly. The surgical complications of diabetes were also remarkably rare in these diabetic soldiers.

Treatment of Hyperhidrosis.—Joseph recommends in hyperhidrosis of the palms, soles and axillae, in mild cases, application twice daily of a 5 per cent. solution of chromic acid; or of a 1 per cent. watery solution of tannic acid; or a mixture of tannic acid 40, glycerin 40, and tincture of iodin 20; or of trichloracetic acid 1, balsam of Peru 1, formic acid 3, chloral hydrate 5, and alcohol to make 100 parts. For the night he advises a powder consisting of salicylic acid 5, boric acid 10, tartaric acid 10, zinc oxid 40, and talc 40 parts. In moderately severe cases he applies twice daily a 4 per cent. solution of formaldehyd, which, if necessary, he increases to 20 per cent. At night the foregoing powders are applied. If the formaldehyd proves too strong an irritant, the addition of sodium carbonate will lessen the irritation. A milder solution is: formaldehyd 2, sodium carbonate 2, and water to make 100 parts. In very severe cases he has found roentgen irradiation effective, but this causes a roughness and dryness of the skin, with slight atrophic changes.

Klinische Wochenschrift, Berlin

March 18, 1922, **1**, No. 12

*Natural Immunity in Children. A. Czerny.—p. 561.
Present Stage of the Eclampsia Problem. P. Esch.—p. 563.
Abdominal Colic with Porphyrinuria. I. Snapper.—p. 567.
Shuttle Method for Examining Intestinal Contents. Van Der Reis.—p. 570.
Tuberculosis in Relation to Food Scarcity. A. Gottstein.—p. 572.
Sulphur in Treatment of Arthritis Deformans. R. Meyer-Bisch.—p. 575.
Erythrocyanosis Cutis Symmetrica. F. Boite.—p. 578.
Cure of Epiphora by Incision of Stricture. Heimann.—p. 580.
Inflammation and the Nervous System. A. Kuttner.—p. 580.
Innervation of Antagonist Muscles; Experiments on Patients Cinematized by Sauerbruch Method. Bethe and Kast.—p. 581.
Experimental Research on Kidney Changes in Diphtheria. Wolff.—p. 581.
Histologic Changes in Brain in Hyperkinetic Affections of the Mouse Following Diphtheria Infection. F. H. Lewy.—p. 582.
Roentgen Findings in Chronic Partial Cardiac Aneurysm. Christian and Frik.—p. 582.
Evidence That the Indications for Cholecystectomy Should be Extended. H. Zoepfel.—p. 583.
*Kindergarten Teacher in Children's Hospital. H. Benario.—p. 593.

Natural Immunity in Children.—Czerny discusses various factors affecting natural immunity in children; among others, a diet poor in purin. An infant gets along very well on food poor in purin. At what age a diet rich in purin must be introduced, is still a matter of controversy. We observe the highest susceptibility to disease, combined with a marked tendency to hyperplasia of the lymphatic tissues, in children who subsist for long periods on food poor in purin. There are no doubt children who will thrive for years on a diet poor in purin. There are also a great many children who need food rich in purin from the time they are 2 years old. Research on metabolism shows that not every child is able to extract from primitive forms of food all that his organism needs, and that, in many cases, we must prescribe proteins, fats and carbohydrates in a definite known form, or harm will arise.

The Kindergarten Teacher in the Hospital.—Hertha Benario emphasizes the need of kindergarten teachers in the children's wards of hospitals; more particularly, in the surgical and dermatologic wards, in order to prevent a retardation in the mental development of children. She urges that welfare societies inquire into this need and endeavor to supply the desired instruction.

Medizinische Klinik, Berlin

May 21, 1922, **18**, No. 21

Congenital Pyloric Stenosis. M. Borchardt.—p. 651.
General Principles for Treatment of Wounds. Sonntag.—p. 655.
Drug Treatment of Headache. H. Kionka.—p. 657.
*Pleuropericardial Friction. F. Frey.—p. 659.
*Multiple Sclerosis of Endocrine Glands. F. Hochstetter.—p. 661.
*Therapeutic Use of Static Electricity. E. Horwitz.—p. 664.
Congenital Pneumatocele in Parotid Gland. J. Rudich.—p. 666.
*Test for Bilirubinemia. A. Vogl and B. Zins.—p. 667.
Treatment of Disease of Posterior Urethra. E. Portner.—p. 669.
Recent Publications on Social Insurance. P. Horn.—p. 671.

Friction Between Pleura and Heart.—Frey describes three cases of an unusual friction sound accompanying the heart beat, traced to inflammation of the left mediastinal pleura from a tuberculous process in the superior lobe of the left lung. The friction sound was heard first at the apex but then changed to the base, and it was audible only during expiration, instead of with inspiration, as at first. He queries whether this is a general law for pleuropericarditic friction, depending on the distention of the lung at the apex during inspiration, and, at the base, depending on the narrowing of the space during active expiration.

Multiple Sclerosis of Endocrine Glands.—Hochstetter relates that necropsy confirmed this diagnosis. The thyroid, testicles and suprarenals showed the most pronounced sclerosis; the parathyroids and pituitary were sclerotic and atrophied, and the spleen, kidneys, liver and lungs were more or less indurated. The whole syndrome had developed in six years in the previously robust farmer of 38. The first symptoms had been intense thirst, sleeplessness, headache and impotence. Chronic bronchitis and emphysema followed. At the fourth year, pains suggesting polyneuritis, and extreme weakness, apathy and emaciation dominated the clinical picture, with low blood pressure, polydypsia and polyuria, but the urine was free from albumin and sugar. Death occurred from heart weakness. He regards this "connective tissue diathesis of the glands" as a disease *sui generis*. The fact that excessive thirst was the first symptom, and that the pituitary showed the most advanced changes suggests that this gland was the first affected. No venereal or infectious disease was known in the antecedents, and tobacco and liquor had been used only in moderation.

Static Electricity in Medicine.—Horwitz describes the application of static electricity by electrodes, air baths and sparks as he has found it extremely useful in hundreds of cases of functional nervous disturbances of all kinds, neuralgia in the head, insomnia, neurasthenia, hysteria, and nervous heart and stomach disturbances.

Bilirubinemia.—Vogel and Zins treat 0.5 c.c. of the blood serum or exudate with twice the volume of 20 per cent. trichloracetic acid. The precipitate is stirred up with a glass rod and this emulsion is filtered through a folded filter. The precipitate left on the filter turns green as it dries, the depth of the tint corresponding to the proportion of bilirubin present. They say that this is a specific and sensitive test for pathologic bilirubinemia. When negative, the tint is yellowish or white.

Münchener medizinische Wochenschrift, Munich

April 28, 1922, **69**, No. 17

*Treatment of Gastric and Duodenal Ulcer. Cramer.—p. 615.
Quartz Lamp Treatment of Tetanus. A. von Beust.—p. 618.
The Mastic Reaction in the Cerebrospinal Fluid. E. Sohlgren.—p. 618.
Origin and Significance of Secondary Murmurs in Functionally Cured Pulmonary Tuberculosis. H. Alexander.—p. 619.
Swimming Pool Conjunctivitis. F. Best.—p. 621.
Dangers in the Abortive Treatment of Gonorrhea. Fuchs.—p. 622.
Prevention of Mercurial Stomatitis. Herrmann.—p. 623.
Roentgen Sarcoma; Pathogenesis of Sarcoma. A. Beck.—p. 623.
Central Luxation of Head of Femur. F. Rehm.—p. 625.
Chloral for Sterilization of Tuberculous Sputum. Lorenz.—p. 625.
Microscopic Examination of Blood in Lead Workers. H. Engel.—p. 626.
Management of Meningococcus Material Intended for Examination in Bacteriologic Institutes. K. Hundeshagen.—p. 627.
Crimes Committed in an Hypnotic State. E. Speer.—p. 629.
Preservation of Sterile Water in Ampules. G. L. Dreyfus.—p. 631.
Luminous Paint to Aid in Roentgen Work. Holzknecht and Jahoda.—p. 632.
An Adjustable Infusion Apparatus. W. Pratt.—p. 632.

Method of Counteracting Rigidity of Abdominal Muscles During Palpation. T. Hausmann.—p. 633.
Curvilinear Incision. A. Kortzeborn.—p. 634.
Influences Affecting Lactation. Grumme.—p. 634. Comment. Schoedel. —p. 635.
Course and Treatment of Pernicious Anemia. P. Morawitz.—p. 637.
Prevention and Treatment of Abdominal Adhesions. Vogel.—p. 638.

Treatment of Gastric and Duodenal Ulcer.—Crämer discusses particularly such points as admit of a different interpretation than is usually found in the textbooks. He holds that hyperchlorhydria is not so much the cause as it is the effect of the ulcer. Processes similar to gastric ulcers occur in the bladder, in the vagina, in the rectum and in the lower portion of the esophagus, where there is no gastric juice, and duodenal ulcer develops in a strongly alkaline medium. If hyperacidity prevents the healing of a gastric ulcer, as is so often asserted, how does it happen that so many ulcers heal spontaneously without attracting any attention by their symptoms? We cannot assume that anacidity was present in all such cases. If postoperative jejunal ulcer is caused by the gastric juices, why does it occur in scarcely 2 per cent. of all gastro-enterostomies? Several years ago, a patient reported that the bismuth suspension that he had taken for roentgenography had helped him very much—that he had had much less pain since then. After this observation had been made repeatedly, Crämer concluded that the bismuth suspension, since it filled the whole stomach, opened up the folds of the mucosa and adhered to ulcerous spots, and this might be the cause of the improvement. Others have observed similar results. Since that time he has often prescribed a bismuth suspension breakfast twice a week, with improvement or a cure in the case of many old ulcers that he had hitherto treated in vain by other methods. As for lavage with gastric ulcer, it is always indicated with motor disturbances or marked gastritis. Marked pyloric stenosis, together with high-grade stasis of the gastric contents and moderate vomiting, is a strong indication for operation. If after four weeks' medical treatment (rest, special diet, daily gastric lavage, Cohnheim's oil treatment) there is no particular improvement, the urine does not increase much in quantity, the stasis does not decrease particularly, the weight does not increase, and the general condition does not improve, in such cases surgical intervention should not be delayed. Following operation, the after-treatment is of the greatest importance. Often successful internal treatment is not possible until after an operation.

May 5, 1922, **69**, No. 18

Ideas and Theories of Inflammation. L. Aschoff.—p. 655.
Cholesterinuria and Indigouria. G. Dorner.—p. 661.
Chronic Appendicitis and Liver Disease. L. Saathoff.—p. 662.
Ileus with Yellow Atrophy of the Liver After Intravenous Treatment; Two Cases. Zieler and Birnbaum.—p. 664.
Ileus with Yellow Atrophy of Liver in Syphilitic. F. Breuer.—p. 666.
Syphilis of the Lungs Unrecognized for Fifteen Years. Winkler.—p. 667.
Second Neurorelapse Following Combined Treatment of So-Called Seronegative Primary Syphilis. F. Krömeke.—p. 668.
Arterial Flaps and Epithelial Inserts. J. F. S. Esser.—p. 669.
Experiences with Direct Blood Transfusion (Oehlecker). Bonhoff.—p. 671.
Neo-Arsphenamin in Wounds of the Buccal Cavity. Ritter.—p. 672.
*Umbilical Cord Sign of Separation of Placenta. H. Hegewald.—p. 673.
Kretschmer's Theory of Constitution in Relation to Anthropology. W. Mayer-Gross.—p. 676.
Diagnostic Puncture. F. Penzoldt.—p. 676.

Cord Sign of Separation of Placenta.—Hegewald states that under light pressure with the fingers on the fundus of the uterus, the clamped umbilical cord stiffens if the placenta is still adherent, and relaxes as the pressure on the fundus is released. He says that this shows the exact moment when the placenta is ready for Credé expression. When the placenta has separated, the impulse is not transmitted to the vessels in the cord.

Wiener klinische Wochenschrift, Vienna

May 4, 1922, **35**, No. 18

Microscopy of Eye and Ophthalmoscopy in Red-Free Light. Lauber. —p. 407.
Intra-Uterine Fetal Injuries. A. Greil.—p. 412.
Effect of Galactose on Blood Sugar Content. Kahler and Machold.—p. 414.
Blood Changes with Stenosis of Upper Air Passages. M. Krassnig.—p. 417.
Colloidal Benzoin Reaction in Cerebrospinal Fluid. F. Mras.—p. 417.

May 11, 1922, **35**, No. 19

Tuberculosis of the Eye. F. Dimmer.—p. 431.
Urochromogen Excretion in Women's Diseases. E. Klaften.—p. 435.
Effect of Diuretics on Fibrinogen. Kollert and Starlinger.—p. 439.
*Treatment of Sequels of Epidemic Encephalitis. I. Piticariu.—p. 441.
"Excretion of Pigments in Gastric Juice and Bile." F. Rosenthal and M. Falkenhausen.—p. 442. Reply. Saxl and Scherf.—p. 444.

Treatment of Sequels of Epidemic Encephalitis with Intravenous Injections of Patients' Own Lumbar Puncture Fluid.—In three cases of persisting clonic spasms and in one case of parkinsonism continuing long after subsidence of the acute encephalitis, Piticariu injected intravenously the patients' own lumbar puncture fluid. No benefit was derived from simple lumbar puncture, without subsequent intravenous injections. Through lumbar puncture he aspirated with a record syringe 10 c.c. of spinal fluid, which he immediately injected into the ulnar vein of the same patient. The injections were given at intervals of from five to seven days. In mild cases four injections sufficed; in the severer cases as many as seven injections were required. Soon after the first injection, the symptoms began to decrease, and later disappeared entirely or nearly so. He theorizes that the cerebrospinal fluid may contain antibodies during convalescence from the epidemic encephalitis.

Zeitschrift für klinische Medizin, Berlin

April 19, 1922, **94**, No. 1-3

*Gout. II. Gudzent and Keeser.—p. 1.
*The Polychemical Urobilin Reaction. T. Hausmann.—p. 12.
*The Heart During Physical Work. Bruns and G. A. Roemer.—p. 22.
*The Immune Biology of Typhoid. H. Oeller.—p. 49.
*The Spleen. J. Weicksel.—p. 90.
*Pathologic Amino-Acid Content of Urine. S. Zandrén.—p. 101.
*The Jugular Pulse. R. Ohm.—p. 140.
*Asthma. W. Sternberg.—p. 196.

Pathogenesis of Gout.—Continuing their research on gout, Gudzent and Keeser recorded the uric acid content and nonprotein nitrogen in organs from cadavers and organs removed at operations, and the organs of fowls. They explain how their findings allow deeper insight into the intermediate metabolism of purins.

Polychemical Test for Urobilin.—Hausmann announces that addition to urine of a 10 per cent. or other strong solution of a salt of any heavy metal or organic or inorganic acid seems to suspend the action of some force which otherwise impedes extraction of urobilin with chloroform or ethyl acetate. No other pigment can be extracted with chloroform in this way except bile pigment, and the latter cannot be extracted with chloroform when a 10 per cent. solution of copper sulphate has been used. On the other hand, it is readily extracted with chloroform from natural urine. The amounts used must be large: 2 c.c. of the concentrated solution of the salt or 6 to 8 drops of the concentrated acid for each 20 c.c. of the urine.

Effect on Heart of Strenuous Physical Work.—Bruns and Roemer give the results of comprehensive roentgen-ray study of the changes in the size of the heart compared with pulse and blood pressure in man and animals. They show that mechanical influences alone cannot explain the changes observed. Besides the action on the heart of the waste products generated in the course of strenuous physical exercise, we have to reckon with psychic influences. The importance of the latter in modifying the size of the heart was abundantly demonstrated in their experiments. This factor does not enter into experiments on animals, as the animals are under the influence of an anesthetic or decerebrated.

The Immune Biology of Typhoid.—Oeller declares that the old conception of typhoid solely from the standpoints of bacteriology and pathologic anatomy must now give way to the newer conception of disease from the standpoint of allergy and vital reactions. This standpoint has been reached in tuberculosis, but typhoid is much better adapted for study from this standpoint as the whole process—which in tuberculosis may be spread over a lifetime—occurs in typhoid within a few weeks.

Function of the Spleen.—Weicksel's research on the physiology and pathology of the spleen has confirmed the close connection between it and the liver, the bone marrow

and the lymph glands, and its importance in destruction of the blood and formation of bilirubin.

Pathologic Excretion of Amino-Acids in the Urine.—Zandrén compares the amino-aciduria in thirty-three cases of advanced tuberculosis with the findings in six healthy subjects and eleven with disease of various kinds but sound livers, and a number of cases of other disease or poisoning. All this evidence testifies to the importance of excretion of amino-acids as a sign of severe insufficiency of the liver.

The Jugular Venous Pulse.—Ohm discusses the conditions in health and disease as the jugular pulse wave is modified by the work and the filling of the heart. He gives twenty-five tracings and fifteen roentgenograms to explain the findings and their mechanism. The pulse wave was studied with a tiny mirror swinging on an axis glued to the skin. A rod was fastened to the center of the axis, the outer end of the rod resting on the vein, and transmitting the movements of the vein to the mirror. This study of the jugular pulse throws light on the functional capacity of the heart.

Asthma.—Sternberg calls attention to some new standpoints for treating asthma, based on the physiology of the respiratory movements and speech movements, and the laws of playing on musical instruments. From these he deduces a physiologic mechanotherapy, a pedagogic didactic method which aims to insure the relaxation of the muscles. The inability to relax promptly is the main factor in asthma, in stuttering, etc. The physiologic pause in the respiration—the relaxation period—must be cultivated and lengthened by systematic exercises. He emphasizes that technical skill in playing on an instrument increases as the movements are made without conscious effort of the will. This fact alone, he says, shows the absurdity of combating asthma by counting exercises or other devices which fasten the attention on the anomaly.

Zentralblatt für Gynäkologie, Leipzig

March 25, 1922, **46**, No. 12

*Surgical Era in Gynecology. A. Mayer.—p. 449.
Psychodiagnosis and Psychotherapy in Gynecologic Practice. W. Stemmer.—p. 458.
*Collection of Data on Septic Abortion. H. A. Dietrich.—p. 467.
A Rare Injury of the Uterus. W. Sigwart.—p. 473.

April 1, 1922, **46**, No. 13

Defense of the Alexander-Adams Operation. H. Fehling.—p. 482.
Value of the Alexander-Adams Operation. G. Siefart.—p. 483.
Therapy of Placenta Praevia. C. Meyer.—p. 485.
Diagnostic Curettage of the Uterus with Fatal Result Due to Endogenous Infection. L. Lederer.—p. 496.
Rare Human Monster: Rhachipagus Parasiticus. H. Polthier.—p. 501.
Case of Primary Carcinoma of the Tube. C. Stanca.—p. 508.

The Surgical Era in Gynecology; Neglect of Borderline Subjects.—Mayer expresses regret that, in recent years, many surgeons seem to overlook the fact that many gynecologic symptoms do not have their origin in a purely gynecologic affection of some organ but, on the contrary, have their roots in the patient's general condition. The brilliant success of operative gynecology was mainly due to the fact that it is an organ specialty. This is its strength and at the same time this is its weakness. He knows of young women who have had a series of operations, from amputation of the portio, the Alexander-Adams, appendectomy and nephropexy to gastro-enterostomy, with hysterectomy finally as the dysmenorrhea and vomiting persisted. There is a tendency to overlook general disease "sailing under a gynecologic flag."

Record for Septic Abortion.—Dietrich gives in detail a blank form that he recommends for recording the results of treatment of septic abortion. He regards the subject as important in view of the increase in the number of cases. If directors of hospitals and also specialists and general practitioners will furnish him with their data, he will gladly later undertake their collation. Dietrich is *Oberarzt* in the Universitäts-Frauenklinik at Göttingen (Germany), where communications may be addressed.

Zentralblatt für innere Medizin, Leipzig

March 18, 1922, **43**, No. 11

*Modification of Iodin Bile Pigment Test. E. Silberstern.—p. 185.

Improved Technic for Test for Bile Pigments in Urine.—Silberstern reports that the ordinary iodin test is made more sensitive and reliable if the iodin is dissolved in chloroform or ether instead of in alcohol. He uses 0.5 part of iodin to 76.5 parts of chloroform, shakes up 1 c.c. of this iodin solution with 2 to 4 c.c. of the fluid to be examined and sets it aside. This is more convenient than estimation from the mere line of contact between the fluids. A green tint as compared with the mother solution is the positive response.

Acta Chirurgica Scandinavica, Stockholm

April 29, 1922, **54**, No. 5

*Invagination After Gastro-Enterostomy. S. Lundberg.—p. 423.
*Hematoma in Sheath of Abdominal Rectus Muscle. E. Perman.—p. 434.
*Infant Surgery. S. Johansson.—p. 455.
*Spontaneous Rupture of Bladder. N. A. Nicolaysen.—p. 507.

Retrograde Invagination After Gastro-Enterostomy.—Lundberg compares with the necropsy findings in his case, six cases he has found in the records in which the upper portion of the jejunum had slipped backward inside the efferent loop. The invaginatum in his case was 20 cm. long, and showed signs of gangrene. Pain and vomiting had been the first sign of trouble. The vomit finally contained blood. The woman died the fourth day. The five patients were all cured who were operated on in from eighteen to forty-eight hours, although the intussusception had not been recognized beforehand except in a case in which it was a recurrence.

Hematoma in Sheath of Rectus Muscle.—In one of Perman's 11 cases the hematoma was the common professional injury early in cavalry training. In some of the others indirect trauma was known. Fifteen of the total 20 cases he has compiled were in women, all but one over 35. The correct diagnosis was made before the operation only in 6 cases. The severe pain, tenderness, muscular rigidity, nausea and vomiting, the absence of any direct trauma, and the disregard of the patient's statements as to mild pain following lifting, coughing, overexertion—all mislead the diagnosis. The period of mild pain may last for some time before the acute clinical picture develops. One patient was a hemophiliac, one a hard drinker. Torsion of an ovarian cyst had been assumed in 6 cases; appendicitis or ruptured tubal pregnancy in some of the others. A yellowish edema in the subcutaneous tissue was noted in 3 cases. In 5 there was suggillation. In 3 cases the hematoma subsided under conservative measures alone, but evacuation of the hematoma shortened the healing time materially in the others, and infection was never observed in these 20 cases. An abscess developed from the hematoma in a further case in which the lesion had followed a kick from a horse. The article is in English.

Operations on Infants.—Johansson's profusely illustrated report (in English) of operations on infants includes 45 for harelip or cleft palate, 2 cases of atresia of the small intestine, neither infant surviving, and 8 cases of recovery after correction of deformity of the rectum, and 104 operative cases of inguinal hernia, all but 4 in boys. He believes in operating early for inguinal hernia in an infant. In his total 115 cases, strangulation had occurred already in 16 per cent. There is also the liability to a vicious circle from gastro-enteritis. The only contraindication he admits is a weight less than 3,000 gm. He operates rapidly; his average time was eleven minutes, always under general anesthesia. In 11 cases of septic osteomyelitis, 9 were cured by the intervention.

In the 6 cases of coxitis the cure was realized without resection, although 3 were very severe. In one, nothing but an extension bandage had been applied. His impression is that an autogenous vaccine tends to shorten the course and limit the big surgical procedures, especially with resection of joints. The whole head of the femur was absorbed in one case. All the others healed with only slight functional derangement. These coxitis cases proved very instructive, he says, as they showed that conservative and expectant treatment is justified in infants in many cases in which otherwise, according to prevailing surgical principles, more radical treatment is indicated. His experience with burns teaches the necessity for hospital treatment for burns in children, even slight burns. The prognosis is unfavorable even with burns of slight extent and intensity. All the 6 infants in this

group finally recovered. He adds that the weight dropped by 200 to 400 gm. in 40 per cent. of 98 infants operated on under general anesthesia, but this drop was transient. The temperature usually runs up for a day or two, but this is of no consequence. Pediatric care is so important for infants that he advises having the surgeon come to the children's clinic for the operation, rather than taking the child to the adult department. In a case of purulent pyelonephritis in a 5 months infant, he exposed both kidneys, and found them studded with miliary abscesses. He drained the pelvis. Instances are on record in which a cure was realized by this, but this child died the same day.

Spontaneous Rupture of Bladder; Healing Without Operation.—Intraperitoneal rupture of the bladder was diagnosed in the man of 47 from the sudden pain, intense desires to urinate and impossibility to void a drop of urine. There had been no trauma but there was a history of old syphilis. The fluid drawn by catheter the second day resembled a peritoneal effusion, containing only 1.33 per thousand urea, while the blood serum, fifty hours after the first symptoms, contained 2.21 per cent. urea. An immediate operation was advised, but this was refused because the condition seemed hopeless, the man apparently moribund. The next morning there was some improvement and 600 c.c. of actual urine was voided. It contained 9 per thousand urea, but only 1 per thousand albumin. The uremia rapidly declined and the general condition improved to correspond. He was discharged in good condition the thirty-third day. The man had been under treatment for the last four years for syphilitic atrophy of the optic nerve, his syphilis dating from twenty-three years before, and there had been occasional slight urinary disturbance for several years. The patient probably would not have survived an operation. Over 50 per cent. of the operative cases of rupture of the bladder terminate fatally. (In German.)

Hospitalstidende, Copenhagen

May 10, 1922, **65.** No. 15

*Ileus from Congenital Malformations. E. Dahl-Iversen.—p. 237. Conc'n. Centering the Roentgen Tube. A. O. Wolff.—p. 242.

May 16, 1922, **65.** No. 16

*Fibro-Adenoma in Male Breast. H. Rud.—p. 253. Conc'n No. 17, p. 269.

Ileus from Congenital Malformations.—Summarized, July 15, p. 254.

Fibro-Adenoma in Male Breast.—Rud quotes Williams', Palermo's and others' statistics reporting 6 benign to 25 malignant tumors in the male breast in 2,422 mammary tumors; 14 per cent. benign in 751 tumors in male breast, and so on. In Denmark, 2 of 42 benign mammary tumors were in men, and 5 of 330 malignant ones. Rud has found only 4 instances on record of a tuberculous tumor in the male mamma, and 10 of a syphilitic tumor. He gives the details of 5 cases in which he removed a fibro-adenoma of the male mammary gland; his patients were all between 18 and 22. Some of the growths were diffuse, others circumscribed. Gynecomastia is usually bilateral, and mastitis generally rapidly subsides. In his cases there was a history of trauma in 4; the interval before the tumor was noticed ranged from three weeks to eight months. In the total of 60 cases he has compiled, trauma is mentioned too often for it to be a mere coincidence, and mastitis had preceded the tumor in the majority. Treatment is imperative, rest and moist heat for the mastitis, and removal of the benign tumor, as it usually continues a progressive course and is liable to become malignant. In doubtful cases, he urges radical mammectomy with removal of glands and fat tissue in the axilla. Even if an excised scrap seems to be benign, there may be malignant tissue elsewhere. But as a rule the extirpation of the tumor itself is sufficient; warning of the necessity for watching for any signs of recurrence. If the tumor is not circumscribed, he advises removing the entire mammary gland.

May 26, 1922, **65.** No. 18

Trauma of Spinal Cord with Unusual Course. A. V. Neel.—p. 285. Cont'd.

*Rupture of Bladder During Expression of Urine. P. Zachariae.—p. 293.

June 6, 1922, **65.** No. 20

*Differences in Mode of Life in Town and Country. P. Heiberg.—p. 317.

Bleeding Angioma in Kidney. Two Cases. A. Sennels.—p. 329.

Rupture of Bladder During Expression of Urine.—The woman had been unable to void the bladder spontaneously after delivery, and this was aided by compression from without. The fifth day symptoms of peritonitis developed and laparotomy revealed a large rupture in the fundus of the bladder although the urine had been constantly free from blood and attention had not been called to the bladder. He has found only one analogous case on record; this was a spontaneous rupture as the woman stooped over, the ninth day after delivery. The bladder was probably overfilled, and this is perhaps the explanation of Zachariae's case.

The Diet in Town and Country.—Heiberg's comprehensive statistical tables compare conditions in regard to nourishment and expense in rural and industrial life.

Hygiea, Stockholm

May 31, 1922, **84.** No. 10

*Food of Factory Workers in Sweden. E. Abramson.—p. 395.

Food of Factory Workers.—The conditions are compared of workers who eat at home and those eating at the free common dining room supported by a certain factory owner. The calories actually consumed, the differences with age, sex and work, the expense per capita, etc., are considered. Fourteen tables give data for comparative research in this line.

Norsk Magazin for Lægevidenskaben, Christiania

June, 1922, **83.** No. 6

*Uncontrollable Vomiting of Pregnancy. K. Brandt.—p. 425.

Erythroblastosis in an Infant. O. Jervell.—p. 434.

*Acute Pancreatitis. K. Haugseth.—p. 443.

Fracture of Cervical Vertebrae from Indirect Force. F. Harbitz.—p. 444.

Dangers of Spinal Anesthesia. S. Widerøe and S. Dahlstrøm.—p. 450.

Infusion of Salt and Sugar Solutions. S. Widerøe.—p. 454.

Uncontrollable Vomiting of Pregnancy.—Brandt says that the treatment of this condition in his service has been so uniformly successful that he regarded it as almost infallible, until two recent fatal cases confirmed anew that there is nothing certain in medicine. He keeps the woman in bed, strictly isolated, with rectal drip of 2 or 3 liters of saline, and every evening 3 gm. of sodium bromid in 100 gm. water, by the rectum, with absolutely nothing to eat or drink for a few days, recording the pulse, temperature and amount of urine, and the amount and character of the vomit. As long as the urine total kept above 600 to 800 gm. and the pulse below 100, he was serene. The fetus cannot be incriminated alone for the intoxication, as in one of his 2 fatal cases of uncontrollable vomiting, the supposed pregnancy did not exist. Only a hydatidiform mole was found in the uterus of the sextipara. Cachexia of unknown cause dominated the clinical picture in this case; the interval since the last menstruation had been only two months when first seen, but the debility had been noted before this. In another case of uncontrollable vomiting, with impairment of vision and mental confusion, gradual improvement followed induced abortion, but the woman still has multiple neuritis and a tendency to psychoneurosis, and is still in bed, the sixteenth week. In a fourth case, the previously healthy woman began to vomit at the third week of pregnancy, and systematic treatment was begun the eighth week. Her condition did not seem serious; the urine totaled 900 gm. but the sixth day the pulse was 120, and two days later 134. The ninth day she became blind, and then the uterus was evacuated. She died the next day. The abortion had been delayed too long after the warning of the acceleration of the pulse.

Acute Hemorrhagic Pancreatitis.—Haugseth adds another to the few cases on record of recovery after operative treatment. The pancreas felt swollen and hard, but all the symptoms from it slowly subsided after removal of the gallbladder, which contained numerous gallstones. Drainage tubes down to the pancreas and to the stump of the cystic duct relieved the pain, and gradual recovery followed. Small scraps of necrotic tissue were expelled through the pancreas fistula, but the tube could be discarded the fifth week.

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